

UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF NEW YORK

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THE CAMPAIGN FOR BUFFALO HISTORY,  
ARCHITECTURE & CULTURE, INC.,

Petitioner,  
vs.

BUFFALO AND FORT ERIE PUBLIC BRIDGE  
AUTHORITY,

Respondent.

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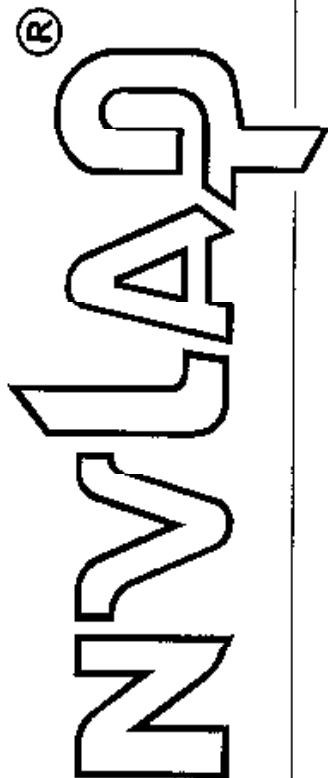
Civil Action No: \_\_\_\_\_

New York State Supreme Court  
Erie County Index No.: I2012-1976

# **Certified Record of Proceedings**

## **Part 16**

United States Department of Commerce  
National Institute of Standards and Technology



## Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200056-0

**EMSL Analytical, Inc.**  
Depew, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the scope of Accreditation, for:

### **BULK ASBESTOS FIBER ANALYSIS**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2011-07-01 through 2012-06-30

Effective dates



*Dolly S. Bruce*  
For the National Institute of Standards and Technology

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER



Expires 12:01 AM April 01, 2012  
Issued April 01, 2011

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MS. RHONDA R. MCGEE  
EMSL ANALYTICAL INC  
490 ROWLEY ROAD  
DEPEW, NY 14043

NY Lab Id No: 11606  
EPA Lab Code: NY01278

*is hereby APPROVED as an Environmental Laboratory for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:*

**Miscellaneous**

Asbestos in Friable Material	EPA 600/M4/82/020 Item 198.1 of Manual
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	ITEM 198.4 OF MANUAL

STATE OF NEW YORK  
DEPARTMENT OF HEALTH

**Serial No.: 44394**

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (516) 485-3570 to verify the laboratory's accreditation status.

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## 4.0 – CONSULTANT’S LICENSE AND CERTIFICATIONS

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**WATTS**

ARCHITECTURE &  
ENGINEERING, P.C.

95 Perry Street Suite 300  
Buffalo, New York 14203



**NEW YORK STATE - DEPARTMENT OF LABOR**

DIVISION OF SAFETY AND HEALTH  
LICENSE AND CERTIFICATE UNIT  
STATE CAMPUS BUILDING 12  
ALBANY, NY 12240

**ASBESTOS HANDLING LICENSE**

Watts Architecture & Engineering, P.C.  
Suite 300  
95 Perry Street  
Buffalo, NY 14203

FILE NUMBER: 99-0394  
LICENSE NUMBER: 29350  
LICENSE CLASS: RESTRICTED  
DATE OF ISSUE: 02/23/2011  
EXPIRATION DATE: 03/31/2012

Duly Authorized Representative - Edward O. Watts

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Maureen A. Cox, Director  
FOR THE COMMISSIONER OF LABOR

SH 432 (4-07)



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**WATTS** Architecture & Engineering, P.C.

PBA000784



STATE OF NEW YORK - DEPARTMENT OF LABOR  
**ASBESTOS CERTIFICATE**



SEAN R. MARMION  
CLASS (EXPIRES)  
DATE (05/12) D/ASP (05/12)  
H-PM (05/12)



**CERT# 10-06946**  
**DMV# 353401142**

**MUST BE CARRIED ON ASBESTOS PROJECTS**



EYES GRN  
HAIR BRO  
HGT 6' 01"

IF FOUND RETURN TO:  
NYSDOL - L&C UNIT  
ROOM 161A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240

**Sean Marmion**

C – Air Sampling Technician  
D – Inspector  
H – Project Monitor



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**WATTS** Architecture & Engineering, P.C.

**PBA000785**

**WATTS**

ARCHITECTURE &  
ENGINEERING, P.C.

95 Perry Street Suite 300  
Buffalo, New York 14203



**STATE OF NEW YORK - DEPARTMENT OF LABOR**

**ASBESTOS CERTIFICATE**



GERARD P. GRADY

CLASS (EXPIRES)

C-ATEC(03/12) D-INS(03/12)

H-PM (03/12) P-03/12)



**CERT# 00-22713**  
**DMV# 280882917**

**MUST BE CARRIED ON ASBESTOS PROJECTS**



EYES BLU  
HAIR BLN  
HGT 6' 03"

IF FOUND RETURN TO:  
NYSDEL - L&C UNIT  
ROOM 290A BUILDING 12  
STATE OFFICE CAMPUS  
ALBANY NY 12240

**Jerry Grady**

C – Air Sampling Technician

D – Inspector

H – Project Monitor



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**WATTS** Architecture & Engineering, P.C.

**PBA000786**

A meeting of the Board of Directors of the Buffalo and Fort Erie Public Bridge Authority was convened in public session at the offices of the Authority at 1 Peace Bridge Plaza, Buffalo, New York, on May 25, 2012, at 8:05 a.m. local time.

The meeting was called to order by the Chairman and, upon roll being called, the following members of the Authority were:

PRESENT:

Sam Hoyt, Chairman  
Anthony M. Annunziata, Vice Chairman  
Valerie A. Beattie  
James J. Eagan  
Henry J. Froese  
Gerald J. Lewandowski  
Michael J. Russo  
Philip J. Tantillo  
Anna T. Tartaglia  
Rocco Vacca

ABSENT:

None

The following resolution was offered by Philip J. Tantillo, seconded by Gerald J. Lewandowski:

**Resolution No. 213/12**

**RESOLUTION THAT DEMOLITION OF BUSTI AVENUE  
PROPERTIES MAY BE SEGMENTED FROM POTENTIAL  
PLAZA PROJECTS AND THAT THE  
DEMOLITION OF BUSTI AVENUE PROPERTIES  
WILL NOT HAVE A SIGNIFICANT  
ADVERSE IMPACT ON THE ENVIRONMENT**

This resolution by the Buffalo and Fort Erie Public Bridge Authority ( "Authority") is adopted on a voluntary basis pursuant to, and in compliance with, Article 8 of the New York State Environmental Conservation Law and the regulations promulgated under Article 8 and set forth at Part 617 of Title VI of the New York Code of Rules and Regulations ("SEQR").

**Project Name:** Demolition and site restoration of properties located on Busti Avenue, between Rhode Island Street and Vermont Street ( "Demolitions" or "Project").

**SEQR Status:** Unlisted Action

**Determination of Significance:** Negative Declaration

**Lead Agency:** Buffalo and Fort Erie Public Bridge Authority

**Location:** The action involves real property located at 757, 765, 771, 775, 777, 783, 791 & 793 Busti Avenue, City of Buffalo, Erie County, New York (collectively, the "Properties").

**Action Description:** The action involves demolition of up to 8 largely vacant residential structures (and any accessory structures) located on the Busti Avenue block between Rhode Island and Vermont Streets in the City of Buffalo. The demolition will including full removal of all basements, site restoration and grading. Following site grading, the area will be developed according to a landscaping plan in order to provide green space and additional buffering between the Peace Bridge U.S. Customs Plaza ("Plaza") and surrounding neighborhood. Three of the structures to be demolished have previously been determined to be eligible for listing as historic structures on the National Register (the "NRE Properties"), one of which (771 Busti Avenue) has also been designated as a local landmark. As originally contemplated, the proposed action involved the demolition of seven structures which the Authority acquired between 1995 and 1998 on Busti Avenue on the north half of the block between Rhode Island and Vermont Streets. The Authority previously acquired and demolished the south half of the same block almost twelve years ago. There is one parcel on this block which the Authority does not own and which would not be demolished. However, over the last few weeks, the Authority has been in discussions with the owner of this property and has made the owner a formal

purchase offer which the owner has accepted. Thus, the structure on this parcel – located at 775 Busti Avenue – will be demolished as well, making the entire block open green space. Thus, the proposed action has been modified to include acquisition and demolition of 775 Busti Avenue.

**RECITALS:**

WHEREAS, the Authority is an International Compact Entity (“Compact Entity”) created pursuant to a compact entered into by the State of New York, with the consent of the United States Congress, and Canada; and

WHEREAS, the Authority is authorized under its enabling legislation, (Laws of New York, Chapter 824, § 8 (1933)), to “[t]o acquire, hold and dispose of real and personal property for its corporate purposes”; “[t]o maintain, reconstruct, repair and replace and operate any properties acquired by it, and pay for the same out of any funds collected by it in the operation of properties acquired by it”; and “[t]o do any other act or thing necessary or proper to carry out, accomplish or effectuate the purposes of [its enabling legislation]”; and

WHEREAS, the Authority has long pursued projects aimed at improvements in handling traffic and commerce on the Peace Bridge over a period of several decades; and

WHEREAS, the Authority purchased the Properties between 1995 and 1998 (with the exception of 775 Busti) with the intent of removing the structures to establish additional buffering between the Plaza and the adjacent neighborhood and for possible future expansion; and

WHEREAS, the Authority had previously proposed a project that included construction of a new and much expanded Plaza, an additional bridge crossing the Niagara River, as well as reconstruction, relocation and improvements to connecting roadways on the U.S. side of the border (the “Capacity Expansion Project”); and

WHEREAS, the Capacity Expansion Project was the subject of a combined environmental review pursuant to a Bi-National Integrated Environmental Review Process (“BNIEP”), in accordance with the requirements of various environmental laws, including the National Environmental Policy Act (“NEPA”), resulting in the preparation of a Draft and Final Environmental Impact Statement; and

WHEREAS, the Capacity Expansion Project was also the subject of a consultation process pursuant to Section 106 of the National Historic Preservation Act of 1966 (“Section 106”); and

WHEREAS, pursuant to NEPA and Section 106, the Authority could take no action to demolish the Properties while the BNIEP was underway; and

WHEREAS, in January, 2012, the U.S. Federal Highway Administration (“FHWA”)

terminated the Capacity Expansion Project after it determined that the project was not attainable due to a lack of funding availability, as well as based on FHWA's concerns about the environmental impacts of a greatly expanded Plaza; and

WHEREAS, as a result of FHWA's termination of the Capacity Expansion Project, the Authority is now able to take action on its longstanding plans to demolish the Properties; and

WHEREAS, the condition and appearance of the some of the structures proposed to be demolished have been an issue of concern to the neighborhood surrounding the Plaza for many years, with most of the structures on the Properties ranging from structurally unsound to generally poor condition, and all of the structures except 775 Busti have not been used for residential purposes for over a decade; and

WHEREAS, as a Compact Entity, the Authority is not subject to State or local laws on matters involving its internal operations; and

WHEREAS, nonetheless, on a voluntary basis, the Authority is complying with SEQR and Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law ("Section 14.09"); and

WHEREAS, voluntary compliance with these laws will ensure that no adverse significant impacts will occur as a result of the Project, and that it incorporates practicable mitigation measures to minimize any unavoidable adverse impacts; and

WHEREAS, the Project is not subject to any discretionary approval or funding from any State or local agency, such that there are no involved agencies under SEQR; and

WHEREAS, notwithstanding that there are no involved agencies, the Authority identified a number of potentially interested agencies, including the City of Buffalo Office of Strategic Planning; the City of Buffalo Department of Permit and Inspection Services; the City of Buffalo Planning Board; City of Buffalo Preservation Board ("Preservation Board"); the New York State Department of Transportation ("NYSDOT"), Region 5; the New York State Department of Environmental Conservation, Region 9; the New York State Office of Parks, Recreation & Historic Preservation ("SHPO"); and the New York State Department of State (collectively the "Interested Agencies"); and

WHEREAS, the Authority prepared Part I of a Full Environmental Assessment Form ("EAF"), pursuant to SEQR and circulated the same to the Interested Agencies along with a cover letter describing the Project and its background (the "Interested Agency Letter"); and

WHEREAS, the Authority has further caused to be prepared Parts II and III of the Full EAF, pursuant to SEQR, including appendices, covering all areas in which potential adverse environmental impacts were identified; and

WHEREAS, the Authority has thoroughly reviewed the entire EAF, including an extensive set of appendices thereto; and

NOW, THEREFORE, BE IT RESOLVED BY THE MEMBERS OF THE BUFFALO AND FORT ERIE PUBLIC BRIDGE AUTHORITY AS FOLLOWS:

Section 1. Based upon a thorough review and examination of the known facts relating to the Project as well as the complete EAF with accompanying appendices, the Authority's extensive knowledge of the area surrounding the Properties, and its careful review of all potentially adverse impacts identified by the Authority, and the entire record and proceedings relating to the Project (see Section 7 for a complete list of supporting documentation), the Authority makes the following findings:

(A) The Authority is the only involved agency and, accordingly, the Authority is undertaking an uncoordinated and voluntary review of the proposed action in conformity with the requirements of SEQR.

(B) Prior to making a recommendation about the potential environmental significance of the Project, the Authority has reviewed the entire record before it, and has considered the list of activities which are Type I Actions outlined in Section 617.4 of the SEQR regulations, the list of activities that are Type II Actions outlined in Section 617.5 of the SEQR regulations, and the criteria for determining significance outlined in Section 617.7 of the SEQR regulations.

(C) The Project is an Unlisted action pursuant to SEQR.

Section 2. No potentially significant adverse impacts on the environment are noted in the EAF and none are known to the Authority.

Section 3. Based upon the foregoing investigation of potential environmental impacts of the Project and considering both the magnitude and importance of each potential environmental impact indicated including, in particular, potential impacts to historic resources, the Authority makes the following determinations with respect to the Project:

The Project will not have a significant adverse impact on the environment. The reasons supporting this determination are as follows:

1. The Project is limited to the Demolitions of up to eight former residential structures (and existing accessory structures) on Busti Avenue on the northern side of the block between Rhode Island and Vermont Streets and the development of open, landscaped green space. The Authority previously acquired and demolished the south half of the block almost twelve years ago. The Project will remove the blighting influence of mostly long-vacant and boarded up houses and complete the conversion of the entire block to open green space for additional buffering between the neighborhood and the Plaza.

2. The Project will not, in and of itself, exceed any of the criteria contained in 6 NYCRR 617.7(c) which set forth the thresholds for determining potentially significant effects on the environment (including, for reasons stated herein, 617.7(c)(v)).
3. The Project will not have a significant adverse impact upon land. The proposed action will remove eight structures from the Project site plus small accessory structures. The existing foundations for each structure will be completely removed below grade and the basements filled with clean soil. The site will then be graded and landscaped, and a mixture of shade and ornamental trees will be planted around the property. None of the site falls within an area with steep slopes. Soil borings completed at the adjacent plaza determined that bedrock and water tables are greater than 3 feet from the surface. Construction will be completed in much less than one year and the proposed action does not fall within a floodway. Also, the property will not be used for mining or for a landfill, and there are no unique or unusual land forms on the site. Accordingly, while the proposed action will result in a physical change to the land, such changes involving the removal of vacant structures and impervious surfaces and creation of green space will generally be beneficial. Thus, the proposed action will not have any significant adverse impacts on land.
4. The Project will not have a significant adverse impact to water. There are no protected bodies of water or wetlands in the Project area, and the Project is not located in the Coastal Zone. However, during demolition activities, there will be a risk of erosion from exposed soils when it rains. To limit pollutants in stormwater runoff, the Authority's engineers have prepared a Storm Water Pollution Prevention Plan for the Project that includes erosion and sediment controls including, but not limited to, installing stabilized construction entrances to remove material from vehicle tires before leaving the site; installing silt fence along the down-gradient site perimeter; protecting existing drainage inlets; and using sediment trapping devices in conjunction with potential excavation dewatering activities.
5. Following demolition activities, the proposed action will alter drainage flow or patterns at the Properties, but the change will be beneficial to the environment. Currently, a high proportion of the project site is covered with impervious surfaces, including buildings and paving (driveways and parking pads). These impervious surfaces will be converted to landscaped green space. By increasing the amount of pervious surfaces, the Demolitions will increase the amount of stormwater that will infiltrate into the ground.
6. In summary, the Project will remove impervious surfaces from the Properties and result in improved stormwater infiltration and control over the long-term. Over the short-term, implementation of a Storm Water Pollution Prevention Plan and voluntary compliance with demolition protocols will minimize impacts from the Project. Accordingly, the proposed action will not have a significant adverse impact on waters.
7. The Project will not have a significant adverse impact upon air quality. Any project involving demolition has the potential to affect air quality on a short-term and temporary basis due to the release of dust associated with demolition activities. As noted above, the Authority will minimize such impacts by requiring demolition contractors to

comply with relevant provisions of the City of Buffalo's demolition ordinance including, but not limited to, wetting all materials during demolition to minimize dust and airborne materials. Once demolition and site grading work is complete, disturbed areas will be reseeded expeditiously to prevent fugitive dust emissions from exposed soils. Accordingly, the Project will not have a significant adverse impact on air quality.

8. The Project will not have a significant adverse impact upon plants and animals. Due to the Project's location in a developed urban area, there is minimal vegetation and wildlife at the site, consistent with a residential neighborhood with a maintained landscape. Therefore, there are no sensitive animals, plants or natural communities and/or significant habitat that will be impacted by the Project. Although the statewide database identified two endangered species on or near the Properties in the past, there have been no sightings of these species in over a hundred years. Moreover, as the site is now an urban area, it no longer supports appropriate habitat for such species. The Properties do not otherwise possess significant ecological value. Accordingly, the Project will not have a significant adverse impact upon plants and animals, including protected species.

9. The Project is located in an urban setting and will not affect any agricultural land resources.

10. The Project will not have a significant adverse impact upon aesthetic resources. In fact, the Demolitions are expected to result in beneficial aesthetic impacts to the neighborhood. The homes to be demolished are largely vacant and dilapidated and do not represent an aesthetic resource. Therefore, the removal of the Properties and replacement with landscaped green space will not result in a loss or significant impact to any aesthetic resource. Similarly, the Project will not result in a jarring contrast to the surrounding land uses, but instead will create an open space that blends with the neighborhood and provides a buffer from the Plaza. Accordingly, the Project will not result in any significant adverse impacts to aesthetic resources.

11. While the Project will have an adverse impact upon historic resources, the value of the resources to be impacted is relatively low based on the current condition of the structures to be demolished and the impacts have been appropriately mitigated. Therefore, any such impacts will not be significant. Three of the structures to be demolished - 771, 777 and 793 Busti Avenue (the "NRE Properties") - were previously identified as potentially National Register eligible by SHPO. However, a 2008 study by the Department of Anthropology at SUNY Buffalo found that significant alterations to the NRE Properties over the years (by past owners), rendered these properties no longer National Register eligible under Criterion C – distinctive characteristics. Moreover, a recent study of each of these properties completed in conjunction with this environmental review similarly concluded that based on their significantly deteriorated condition, the NRE Properties do not retain sufficient integrity to be National Register eligible. Nonetheless, based on consultation with SHPO relative to the Demolitions, all three of the NRE Properties are still considered National Register eligible and one of these properties - 771 Busti (the "Wilkeson House") – has been listed as a local landmark by the City of Buffalo Preservation Board.

12. Despite the history of NRE Properties, they all suffer from structural problems or other damage. At 793 Busti, there has been severe water damage. Several areas of the ceiling throughout the back portion of the house, including approximately half of the kitchen, have collapsed. Floor boards have buckled and a bearing wall or column that supported the center support beam was removed by prior owners. As a result, the structural integrity of the building is compromised and a 2009 Structural Report recommends that it be demolished. Similarly, 777 Busti has suffered water leakage into the basement through the basement bulkhead door, deteriorated clapboards and sill plates, chimney damage and areas where the roofing is rotting. Unfortunately, the structure with the most historical significance – the Wilkeson House – is also the one that is in the worst shape by far. A number of structural evaluations; the most recent in 2009 have determined that the Wilkeson House is structurally unsound and recommends demolition. In fact, the Wilkeson House is so structurally compromised that current plans are to treat the entire demolished building as hazardous materials because it is not possible to safely enter the structure to remove asbestos and other hazardous materials prior to demolition.

13. The Authority has implemented several actions to mitigate the impacts that the Demolitions will have upon these historic resources. First, all of the structures were offered for free to any interested group or individual who was able to relocate them to another site. The Authority publicized this offer extensively, including postings on its website, direct mailings to the City of Buffalo, neighborhood and preservation stakeholder groups and at a public information meeting held on April 4, 2012 at the Porter Avenue Public Library. Several individuals did contact the Authority for additional information, but no proposals were received by the closing deadline of April 26, 2012. Second, the Authority is requiring contractors to consider the use of “deconstruction” techniques during demolition. This approach will preserve items of architectural merit, enables their use in other properties, and reduces the amount of waste that ends up in landfills. Finally, archival studies meeting state and federal standards have been completed on each of the NRE Properties. This action will ensure that extensive information about the NRE Properties will be preserved and archived for future generations both with SHPO and the Buffalo Historical Society.

14. While the Authority is not subject to the SHPO consultation requirements of Section 14.09 (because it is not a State agency), it has nonetheless voluntarily consulted with SHPO with respect to the Demolitions and related mitigation measures. By letter dated May 17, 2012, SHPO agreed that “[t]he provided materials would indicate that the buildings have reached the end of their structural life and that rehabilitation or adaptive reuse by the [Authority] would be economically and programmatically unreasonable.” Thus, SHPO has concurred that demolition is appropriate for all three of the NRE Properties (although SHPO expressed sadness at the loss of the Wilkeson House). The letter also stated that the proposed mitigation is appropriate and consistent with SHPO standards. It is also noted that none of the properties to be demolished are within the National Register eligible Prospect Hill Historic District and all are sufficiently distant from this resource and Front Park such that demolition will not adversely affect these historic resources. Accordingly, the Project will not have a significant adverse impact upon historic resources.

15. The Project will not have a significant adverse impact upon archeological resources. While the area around the Plaza (including the Properties) was identified as archeologically sensitive in conjunction with a Phase IA archeological assessment prepared for the Capacity Expansion Project, the Project is largely limited to above ground activity. The only below grade activity is the removal of the foundations, which areas would have been previously disturbed when the basements were installed. Accordingly, no significant adverse impacts to archeological resources will occur.
16. The Project will not adversely affect the quantity or quality of existing or future open spaces or recreational resources. In fact, demolition of the structures and site restoration as landscaped green space will result in the availability of additional open space for use by the neighborhood.
17. The Project does not take place in a Critical Environmental Area and, therefore, will not impair the characteristics of a designated Critical Environmental Area.
18. The Project will not adversely affect the existing transportation system by altering the movement of people, or otherwise impacting traffic.
19. While the Project may result in the short term use of energy during demolition and restoration of the property, it will not result in a major change in the quantity or type of energy used.
20. The Project will not have a significant adverse impact with respect to noise. The only potential adverse noise generated from the Project will occur during the demolition and restoration process, which is expected to last no longer than eight weeks. While noise resulting from the Project may exceed background conditions during demolition, such noise will occur solely during daytime hours when noise sensitivity is typically lowest. Also, construction activities will comply, on a voluntary basis, with applicable noise ordinances and laws. Accordingly, noise impacts will be limited, temporary and short-term, and will not have a significant adverse impact upon the environment.
21. The Project will not result in any odor impacts.
22. While the Demolitions will result in disposal of solid and hazardous waste from the removal of the structures, the Authority concludes that the volume of waste from 8 structures will not result in a significant adverse impact due to a substantial increase in solid waste production. In addition, as stated above, the Authority will encourage reuse ("deconstruction") of salvageable materials from the structures, which should reduce the overall amount of waste from the Demolitions.
23. The Project will not have a significant adverse impact upon public health. The Demolitions will, on a voluntary basis, comply with all applicable laws and will implement proper protocols during the Project period to minimize potential health and safety impacts from demolition activities. With the exception of 771 Busti, all potentially asbestos containing materials and other potentially hazardous waste will be removed from the structures prior to demolition, properly packaged and disposed of in accordance with applicable laws. The entire structure at 771 Busti will be treated as an asbestos

abatement project in order to protect the health and safety of the construction workers and the community.

24. Potential adverse impacts during the Project will also be reduced because the Authority will comply, on a voluntary basis, with the applicable provisions of the City's demolition ordinance. These requirements will include: temporary construction fencing around the entire project limits to protect the public; proper handling of asbestos; baiting of all buildings for rodents; appropriate shutting off and capping of all utilities; measures, including constant wetting of materials, during the demolition process to minimize dust and airborne particulates; standards for removal of debris and rubbish (to appropriate landfill facilities); restoration of any damage to sidewalks, curbs or streets; standards for fill materials; appropriate grading and leveling; time limits for removal of all demolition debris; and requirements for signage.

25. Importantly, the demolition of the structures, particularly the more severely deteriorated vacant structures, will have a beneficial impact on public health and safety and the general welfare of the community. These properties represent a safety and security threat to the neighborhood. These properties have been regularly broken into, targeted for vandalism and, occasionally, more serious criminal activity. In addition, neighborhood children frequently play on the existing green space on the south side of the block in close proximity to these structures. In their current condition, these properties represent a danger to the neighborhood and anyone who might enter them. Thus, based on the current condition of these properties, the Demolitions will actually protect and improve public health and safety and improve the general welfare of the community.

26. The Project will not have a significant adverse impact upon the growth and character of the community. While the proposed action will alter the character of the immediate neighborhood, in general, it is anticipated that these changes will be beneficial. The remaining portion of residential structures on the half block between Rhode Island and Vermont will be fully transitioned to a landscaped grassy area. The removal of the largely vacant boarded-up structures will remove their blighting influence and increase the amount of buffer between occupied residential homes on Columbus Parkway Street and operations at the Plaza. It will also create additional greenspace and recreational opportunities for neighborhood children (similar to the half block of Busti which has already been converted to greenspace). Additionally, the Project is generally consistent with City planning documents, including the City's Comprehensive Plan (*Queen City in the 21<sup>st</sup> Century*) and the City's Waterfront Corridor Initiative.

27. With respect to the availability of the Properties to support existing uses, there is an abundant supply of housing in the area and all but one of the structures (775 Busti) has not been used for residential purposes for many years. Structural analyses support, if not require, demolition of most of the structures. Thus, the Project will not result in a significant adverse impact from the inability of the Properties to support residential use.

Section 4. Notwithstanding FHWA's decision to terminate the Capacity Expansion Project, the post 9-11 security and processing requirements of the U.S. entry

have resulted in a Plaza that does not function well, with lengthy delays and congestion, particularly for commercial traffic entering the United States. Accordingly, the Authority is currently considering several potential projects designed to improve traffic handling and relieve congestion in the area of the Plaza ( "Potential Plaza Projects") including (a) modifications within the Plaza such as renovations and a small addition to the existing Customs and Border Protection Commercial Building, a Bridge approach widening project and some potential modifications to Plaza egress; as well as (b) a modest expansion of the Plaza to include the Properties, the currently vacant Episcopal Church home Property and adjoining public rights of way.

SEQR requires review of an entire set of activities or steps that constitute a project, whether the agency decision-making relates to the action as a whole or to only part of it. Therefore, the Authority must carefully consider the scope of the proposed action under review. The Demolitions will convert the Properties to landscaped green space providing a buffer between the Plaza and the surrounding neighborhood. The Project has independent utility from any Potential Plaza Projects, and is functionally independent of any other actions or potential projects by the Authority. However, both actions will occur in the same geographic location. Furthermore, the Project will result in the availability of the Properties for other uses by the Authority, including possible Plaza expansion. As such, the Project and the Potential Plaza Projects could be considered sufficiently related actions pursuant to SEQR to require a single environmental review process. However, SEQR explicitly authorizes segmentation of environmental reviews provided such segmentation is warranted under the circumstances and no less protective of the environment (6 NYCRR 617.3(g)(1)).

With respect to the scope of environmental review for the Demolitions, the Authority affirmatively determines that segmentation of the environmental review for the Demolitions from the environmental review for any Potential Plaza Project is warranted under the circumstances and is no less protective of the environment. The reasons supporting this determination are as follows:

1. Potential Plaza Projects within the existing Plaza are wide ranging and in various states of preliminary planning and design. These projects involve evaluations of Plaza access reconfiguration that would include changes to the egress from the Plaza by constructing a new ramp to allow exiting traffic to access Porter Avenue without the need to cross through the incoming traffic lanes from the I-190. It would also eliminate the traffic light at Baird Drive/Ramp A and relocate the x-ray equipment.
2. Potential Plaza Projects involving Plaza expansion are even more preliminary with initial planning underway considering various options including rerouting the primary access road connecting outbound vehicles to the Bridge to the east of the existing Plaza, creating a smooth and uninterrupted flow of traffic from the I-190 to the Bridge; providing more adequate staging for over-width vehicles and better buffering between the Plaza and the surrounding neighborhood; and redesign and relocation of the existing Duty Free Store to a larger, more functional area on the property currently occupied by the vacant Episcopal Church Home with more adequate traffic handling and parking

facilities.

3. In addition, while preliminary planning for Potential Plaza Projects has begun, there are many uncertainties regarding various portions of the Potential Plaza Projects which may prevent such projects from ever occurring, particularly the modest Plaza expansion. Such uncertainties include, but are not limited to: whether the City of Buffalo will be willing to abandon public rights of way within the potential Plaza expansion footprint; whether the Authority will be able to acquire other properties necessary for any Potential Plaza Projects; and/or whether NYSDOT or some other State agency will be able and/or willing to use its powers of eminent domain to assist with property acquisition in the event the Authority is unable to acquire any necessary property on its own.

4. In contrast to Potential Plaza Projects, the Demolitions faces no uncertainty and involves no State or local agency action. Moreover, undertaking the Demolitions while the many uncertainties associated with the Potential Plaza Projects are resolved is reasonable. The Properties were acquired by the Authority with the intent of demolishing the structures and the Authority has no intent of allowing the structures to be used for residential purposes next to a poorly functioning Plaza. The Authority already acquired and demolished the properties on the other half of the same block. The proposed demolition will provide additional green space in the neighborhood and additional buffering between residents and the Plaza. In addition, several of the structures on the Properties are in advanced states of deterioration, particularly the Wilkeson House. The Demolitions will therefore remove blight and resolve existing safety issues associated with some of these structures. In general, the Project will improve the overall aesthetics and character of the neighborhood. While the Demolitions may result in the availability of the Properties for other uses by the Authority, the provision of additional buffering and green space has a long-standing and independent purpose of its own. Importantly, it is not practically determinative of whether the Authority will undertake Potential Plaza Projects in the future, if those actions are undertaken at all. Accordingly, segmentation of the environmental review for the Demolitions from any environmental review for the Potential Plaza Project is warranted under the circumstances.

5. The second element of the segmentation analysis requires a demonstration that segmented environmental analysis is clearly no less protective of the environment than if the projects were reviewed as a single action. There are several reasons that segmentation is no less protective of the environment.

6. First, the Demolitions and any Potential Plaza Projects have independent utility each serving a different purpose. The Demolitions will remove the blighting influence caused by the largely vacant and boarded up structures, resolve potential safety issues associated with some of the more dilapidated structures, and provide a landscaped buffer between the adjacent neighborhood. In contrast, the Potential Plaza Projects are designed to improve traffic flow and safety within the Plaza.

7. Second, the Demolitions are in no way determinative of any of the Potential Plaza

Projects including Plaza expansion. In other words, undertaking the Demolitions does not commit the Authority to undertake any of the Potential Plaza Projects.

8. Finally (and perhaps most importantly), any future use of the Properties as part of any Potential Plaza Projects or otherwise will be the subject of a full and complete environmental review either by the Authority (on a voluntary basis similar to the Demolitions) or by another agency (to the extent Potential Plaza Projects require the involvement of a local or State agency, such agencies have an affirmative obligation to comply with SEQR). Simply stated, no potentially significant adverse impacts from the Project or the Potential Plaza Projects will escape SEQR review.

9. Accordingly, segmentation of the environmental review for the Project from any environmental reviews associated with the Potential Plaza Projects is warranted under the circumstances and is clearly no less protective of the environment.

Section 5. The Chairman and Administrative Director of the Authority are hereby authorized and directed to distribute copies of this Resolution as necessary and to do such further things or perform such acts as may be necessary or convenient to implement the provisions of this Resolution.

Section 6. This Resolution, which was adopted by a majority vote of the Board of Directors of the Authority on May 25, 2012 and shall serve as: (1) the Negative Declaration (as defined in 6 NYCRR 617.2(y)) for the Project; and (2) a determination (under 6 NYCRR 617.3(g)(1)) that segmentation is warranted and that such review is clearly no less protective of the environment (collectively, the “Determination of Significance”). This Determination of Significance is issued by the Authority, acting as lead agency pursuant to and in accordance with SEQR in an uncoordinated environmental impact review, and shall take effect immediately. This Negative Declaration has been prepared in accordance with the requirements of SEQR (Article 8 of the Environmental Conservation Law).

Section 7. The supporting documentation relied on by the Authority in issuing these determinations include:

1. Parts 1, 2 and 3 of the Full Environmental Assessment Form for the Project;
2. Project location maps;
3. Environmental Features Map (no floodplains, no wetlands);
4. Solicitation of comments directed to all potentially interested agencies;
5. City of Buffalo Demolition Protocols;
6. Sediment and Erosion Control Plan (SWPPP);
7. Map from New York State Department of Environmental Conservation “Environmental Resource Mapper”;
8. Identified species per the Environmental Resources Mapper;
9. Excerpt from Final Environmental Impact Statement, Plaza Expansion Project, (A copy of the Final Environmental Impact Statement is maintained at the Authority offices);

10. Photographs and Photo-simulations (before/after);
11. Landscape Plan;
12. Planting Plan;
13. Structural Condition Inspection and Site Analysis of 757, 765, 771, 777, 783, 791 and 793 Busti Avenue, Buffalo, New York, CHA, March 2009;
14. Reuse Feasibility Study: Conclusion (A copy of the complete report is maintained at the Authority offices);
15. Architectural Integrity Summary (A copy of the complete report is maintained at the Authority offices) Phase 1A Report: Table of Contents (A copy of the complete report is maintained at the Authority offices);
16. Level II HABS/HAER documentation for 771 Busti Avenue;
17. Level II HABS/HAER documentation for 777 Busti Avenue;
18. Level II HABS/HAER documentation for 793 Busti Avenue;
19. Application for Landmark/Landmark Site (Submitted to Buffalo Preservation Board);
20. Advisory Consultation Letter from Authority to SHPO, dated April 12, 2010 (including supporting exhibits A through K);
21. Letter from SHPO to Authority, dated May 17, 2012, including approval of proposed mitigation;
22. Letter from Authority to SHPO, dated May 17, 2012;
23. Comment Letter from City of Buffalo Preservation Board, dated May 7, 2012;
24. Letter from Authority to City of Buffalo Preservation Board, dated May 18, 2012;
25. Asbestos Abatement Process Summary;
26. Pre-Demolition Surveys: 757, 765, 771, 783, 791 and 793 Busti Avenue;
27. Memorandum of Agreement: Neighborhood and Plaza Improvement Plan ("Peace Bridge Gateway Improvement");
28. Notice of Availability for Relocation dated February 27, 2012;
29. Official Public Notice dated March 12, 2012;
30. Copies of Public Information Session Boards dated April 4, 2012;
31. Sign-in Sheets: Public Information Session;
32. Comments Received: Public Information Session;
33. Comment letter from neighbor dated April 25, 2012.

Section 8. For further information on this Determination of Significance contact:

Ron Rienas, General Manager  
Buffalo and Fort Erie Public Bridge Authority  
1 Peace Bridge Plaza  
Buffalo, NY 14213-2494  
Telephone: 716-884-6744

The question of the adoption of the foregoing Resolution was duly put to a vote on roll call, which resulted as follows:

Sam Hoyt, Chairman	VOTING <i>Yes</i>
Anthony M. Annunziata, Vice Chairman	VOTING <i>Yes</i>
Valerie A. Beattie	VOTING <i>Yes</i>
James J. Eagan	VOTING <i>Yes</i>
Henry J. Froese	VOTING <i>Yes</i>
Gerald J. Lewandowski	VOTING <i>Yes</i>
Michael J. Russo	VOTING <i>Yes</i>
Philip J. Tantillo	VOTING <i>Yes</i>
Anna T. Tartaglia	VOTING <i>Yes</i>
Rocco Vacca	VOTING <i>Yes</i>

The foregoing Resolution was thereupon declared duly adopted.

STATE OF NEW YORK                    )  
                                                  ) SS.:  
COUNTY OF ERIE    )

I, the undersigned Secretary-Treasurer of Authority (the "Authority"), do hereby certify that I have compared the foregoing extract of the minutes of the meeting of the members of the Authority, including the Resolution contained therein, held on May 25, 2012, with the original thereof on file in my office, and that the same is a true and correct copy of said original and of such Resolution set forth therein and of the whole of said original so far as the same relates to the subject matters therein referred to.

I FURTHER CERTIFY that, as of the date hereof, the attached Resolution is in full force and effect and has not been amended, repealed or rescinded.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Authority this 25 day of May 2012.



\_\_\_\_\_  
Ron Rienas, Secretary-Treasurer

(SEAL)

**Preliminary Final Design Report  
Preliminary Final Environmental Impact Statement  
Preliminary Final Section 4(f) Evaluation  
Preliminary Final Section 6(f) Evaluation  
Appendix E – Phase IA Cultural Resource Investigation**



**Peace Bridge Expansion Project**

**Capacity Improvements to the Peace Bridge, Plazas and  
Connecting Roadways**

**City of Buffalo, Erie County, NY  
Town of Fort Erie, Ontario Canada**

**PIN 5753.58 / FHWA-NY-EIS-07-06-F**

**April 2011**



Buffalo and Fort Erie  
Public Bridge Authority



U.S. Department of Transportation  
Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION  
Andrew M. Cuomo, Governor Joan McDonald, Commissioner

PBA000803





**Revised Draft  
Phase IA Cultural Resource  
Investigation of Two Proposed  
Alternative Designs for the U.S. Peace  
Bridge Plaza and Connecting Roadway  
System in the City of Buffalo,  
Erie County, New York**

**OPRHP Project Review No. 01PR04982**

**September 2007**

**Prepared for:**

**BUFFALO AND FORT ERIE PUBLIC BRIDGE AUTHORITY**

**Prepared by:**

**Leonid I. Shmookler, Daniel M. Cadzow, and Natasha B. Snyder**

**ECOLOGY AND ENVIRONMENT, INC.**

368 Pleasant View Drive  
Lancaster, New York 14086



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## able of Contents

Section	Page
<b>1</b>	<b>Introduction ..... 1-1</b>
<b>2</b>	<b>Project Background and Description ..... 2-1</b>
2.1	Project Background ..... 2-1
2.2	Description of Alternatives ..... 2-1
2.2.1	No Build Alternative ..... 2-2
2.2.2	Alternative 1: Maximize Use of the Existing U.S. Plaza ..... 2-2
2.2.3	Alternative 3: Shared Border Management..... 2-3
<b>3</b>	<b>Physiography, Geomorphology, and Soils ..... 3-1</b>
3.1	Geology ..... 3-1
3.2	Physiography ..... 3-1
3.3	Drainage ..... 3-2
3.4	Soils..... 3-3
<b>4</b>	<b>Prehistoric Background ..... 4-1</b>
4.1	Paleo-Indian Period ..... 4-1
4.2	Archaic Period..... 4-2
4.2.1	Early Archaic Period ..... 4-3
4.2.2	Middle Archaic Period ..... 4-4
4.2.3	Late Archaic Period..... 4-5
4.2.4	Transitional Period ..... 4-6
4.3	Woodland Period..... 4-6
4.3.1	Early Woodland Period ..... 4-7
4.3.2	Middle Woodland Period ..... 4-9
4.3.3	Late Woodland Period..... 4-11
4.4	Proto-Historic Period..... 4-15
<b>5</b>	<b>Historic Background..... 5-1</b>
5.1	Early History..... 5-1
5.2	Black Rock: Early Formative Period..... 5-4
5.2.1	The Physical Setting..... 5-4
5.2.2	Black Rock ..... 5-4
5.2.3	The Ferry ..... 5-5

## Table of Contents (cont.)

Section	Page
5.2.4 Early Commerce and Development.....	5-5
5.2.5 Early Roads .....	5-7
5.2.6 The Erie Canal.....	5-7
5.2.7 Survey of Black Rock.....	5-8
5.3 Black Rock during the War of 1812: Fort Tompkins.....	5-8
5.3.1 Fort Tompkins .....	5-9
5.3.2 Fort Tompkins and the Military Events of the War of 1812 .....	5-10
5.3.3 Burning of Black Rock and Buffalo .....	5-12
5.3.4 The Last Engagement at Black Rock .....	5-12
5.4 1815-1825: Post–War Developments.....	5-13
5.4.1 Harbor Improvements and the Erie Canal .....	5-14
5.5 The Village of Black Rock 1826-1852.....	5-17
5.5.1 Advent of Lower Black Rock.....	5-17
5.5.2 The Ferry .....	5-17
5.5.3 Residential Development .....	5-18
5.5.4 Early Waterworks.....	5-19
5.5.5 Black Rock Industries.....	5-19
5.5.6 The Railroads .....	5-19
5.5.7 Erie Canal: Later Developments .....	5-20
5.5.8 Cholera Epidemics .....	5-21
5.5.9 Speculative Craze and Depression (1830-1845) .....	5-22
5.6 Buffalo’s West Side: 1853 to Mid 20 <sup>th</sup> Century.....	5-22
5.6.1 Buffalo Annexes Black Rock.....	5-22
5.6.2 Ethnic Composition of the Neighborhood.....	5-23
5.6.3 Underground Utilities.....	5-23
5.6.4 Late and Modern Waterworks .....	5-25
5.6.5 Streetcars .....	5-26
5.6.6 The Civil War and the Fenian Invasion.....	5-27
5.6.7 Fort Porter.....	5-28
5.6.8 Front Park .....	5-31
5.6.9 Protestant Episcopal Church Home and Hutchinson Memorial Chapel.....	5-33
5.6.10 Hydroelectric Power and Long-Distance Transmission .....	5-34
5.6.11 Peace Bridge.....	5-35
5.6.12 General Developments of the Late 19 <sup>th</sup> and Early 20 <sup>th</sup> Centuries .....	5-37
<b>6 Field Reconnaissance .....</b>	<b>6-1</b>
6.1 Alternative 1 .....	6-1
6.2 Alternative 3 (Option 13G-R1) .....	6-1
6.3 Alternative 3 (Option 23B-R1).....	6-1
6.4 Alternative 3 (Option 23B-R2).....	6-1
<b>7 Prehistoric Sensitivity Assessment.....</b>	<b>7-1</b>
7.1 Known Prehistoric Archaeological Resources .....	7-1

## Table of Contents (cont.)

Section	Page
7.2 Prehistoric Sensitivity Assessment: Alternatives 1 and 3 .....	7-3
<b>8 Historic Sensitivity Assessment .....</b>	<b>8-1</b>
8.1 Known Historic Resources .....	8-1
8.1.1 Alternative 1 .....	8-1
8.1.2 Alternative 3 (Option 13G-R1) .....	8-2
8.1.3 Alternative 3 (Option 23B-R1).....	8-2
8.1.4 Alternative 3 (Option 23B-R2).....	8-2
8.2 Historic Map Analysis Methodology .....	8-2
8.3 Map Analysis: Alternative 1 .....	8-3
8.3.1 Map Analysis by Block .....	8-4
8.3.2 Potential Cultural Resources Below Street Grade.....	8-6
8.4 Historic Sensitivity Assessment: Alternative 1 .....	8-7
8.5 Map Analysis: Alternative 3 (Option 13G-R1).....	8-8
8.5.1 Map Analysis by Block .....	8-8
8.5.2 Potential Cultural Resources Below Street Grade.....	8-9
8.6 Historic Sensitivity Assessment: Alternative 3 (Option 13G-R1) .....	8-9
8.7 Map Analysis: Alternative 3 (Option 23B-R1) .....	8-10
8.7.1 Map Analysis by Block .....	8-10
8.7.2 Potential Cultural Resources Below Street Grade.....	8-11
8.8 Historic Sensitivity Assessment: Alternative 3 (Option 23B-R1).....	8-11
8.9 Map Analysis: Alternative 3 (Option 23B-R2) .....	8-12
8.9.1 Map Analysis by Block .....	8-12
8.9.2 Potential Cultural Resources Below Street Grade.....	8-13
8.10 Historic Sensitivity Assessment: Alternative 3 (Option 23B-R2).....	8-13
8.11 Historic Sensitivity Assessment: Peace Bridge Plaza (Fort Porter) .....	8-14
8.12 Historic Sensitivity Assessment: Front Park .....	8-14
<b>9 Conclusions and Recommendations .....</b>	<b>9-1</b>
9.1 Prehistoric Concerns: Alternatives 1 and 3 (all options).....	9-1
9.2 Historic Concerns: Alternatives 1 and 3 (all options) .....	9-2
9.3 Fort Porter.....	9-2
9.4 Front Park .....	9-2
<b>10 References .....</b>	<b>10-1</b>
<b>Appendix</b>	
<b>A Agency Consultation .....</b>	<b>A-1</b>
<b>B Photographs.....</b>	<b>B-1</b>

## Table of Contents (cont.)

Section	Page
<b>C</b>	
<b>OPRHP and SUNY BUFFALO Survey Site File Check</b>	
<b>Tables .....</b>	<b>C-1</b>
<b>D</b>	
<b>Monitoring Plan for Alternatives 1 and 3 of the Proposed</b>	
<b>Peace Bridge Expansion Project .....</b>	<b>D-1</b>

# List of Tables

Table		Page
4-1	Outline of Niagara Frontier Aboriginal History (Williamson 2004:2) .....	4-2
4-2	Summary of diagnostic point types collected by A.L. Benedict from the Fifteen Mile Post site by cultural period (Sheehan and Perrelli 1998) .....	4-4
4-3	Summary of Late Woodland Site Types (Herter 2001:25) .....	4-11
4-4	Comparison of Late Woodland Cultural History for Portions of New York and Southern Ontario by Various Authors (Herter 2001:277).....	4-13
5-1	Dates of Installation of Sewer and Water Service for Various Streets (Bureau of Engineering 1912; Demeter 1999a).....	5-24
7-1	Prehistoric Sites on the East Bank of the Niagara River (from OPRHP Site Files) .....	7-2
7-2	Prehistoric Sites from Both Banks of the Niagara River and Portions of Grand Island (from SUNY Buffalo Site Files) .....	7-2

# List of Figures

Figure	Page
2-1	Project Location Map..... 2-7
2-2	Overview of Project Limits for Alternatives 1 and 3 (All Options) ..... 2-9
5-1	Village of Black Rock in 1840..... 5-41
5-2	Proposed Layout of the Village of Black Rock in 1807 ..... 5-43
5-3	The Black Rock, Shores of Niagara River, and Ferry Route, Circa 1812..... 5-45
5-4	The Village of Black Rock During the War of 1812, with Circa 1863 Streets..... 5-47
5-5	Location of the War of 1812 Batteries in Relation to the Village of Black Rock (1836) ..... 5-49
5-6	Composite Map of Black Rock and Fort Tompkins Circa 1812..... 5-51
5-7	The Villages of Black Rock and Buffalo in 1839 ..... 5-53
5-8a	The Northern Half of the Project Area in 1874 ..... 5-55
5-8b	The Southern Half of the Project Area in 1874 ..... 5-57
5-9	The Project Area in 1847 ..... 5-59
5-10	The Project Area in 1848 ..... 5-61
5-11	The Project Area in 1853 ..... 5-63
5-12	A Pre-Sewer Water Closet System ..... 5-65
5-13a	The Northern Half of the Project Area in 1894 ..... 5-67
5-13b	The Southern Half of the Project Area in 1894 ..... 5-69
5-14	The Project Area in 1872 ..... 5-71
5-15	The Project Area in 1880 ..... 5-73

## List of Figures (cont.)

Figure	Page
5-16	The Old (Massachusetts Avenue) Pumping Station, Circa 1897, facing Northwest..... 5-75
5-18	Horse-drawn Streetcar on Niagara Street with the Buffalo Street Railroad Company's Stables No. 3 in the Background, Circa 1890s, Facing Southwest..... 5-75
5-17	The Pump House at 888 Columbus Parkway (Seventh Street) in 1889..... 5-77
5-19	Early Electric Streetcar of the Buffalo Street Railroad Company Circa 1900s ..... 5-79
5-20	The International Railway Company's Powerhouse at 1010 and 1016 Niagara Street, Circa 1908, Facing West..... 5-79
5-21	Demolition of the Blockhouse at Fort Porter on November 17, 1888 ..... 5-81
5-22	Church Charity Foundation's Church Home, Circa 1869, Facing Northwest ..... 5-81
5-23	Church Charity Foundation's Church Home Prior to Demolition, Circa 1900, Facing Northwest ..... 5-83
5-24	Church Charity Foundation's New Church Home, Circa 1932, Facing Northwest..... 5-83
6-1	Photograph Key Map ..... 6-3
8-1	Locations (1-4) of Above-Average Archaeological Sensitivity at the Former Fort Porter Grounds ..... 8-17
8-2	Overlay of Standing Structures and Historic Structures ..... 8-19
8-3a	The Southern Half of the Project Area in 1915 ..... 8-21
8-3b	The Northern Half of the Project Area in 1915 ..... 8-23
8-4	A 1927 Aerial View of the Project Area..... 8-25
8-5	A 1978 Aerial View of the Project Area..... 8-27
8-6	2002 Aerial View of Project Area, Southern Section ..... 8-29
8-7	Georeferenced Image of the Map of Fort Tompkins over the 1874 Map of the Study Area..... 8-31
8-8	Georeferenced Image of the Map of Fort Tompkins over 2002 Aerial Photography ..... 8-33
8-9	Portions of Lots with Above-Average Potential for Archaeological Deposits ..... 8-35

## List of Abbreviations and Acronyms

ACHP	Advisory Council on Historic Preservation
AMS	accelerated mass spectrometry
amsl	above mean sea level
APE	area of potential effect
B&BRRR	Buffalo and Black Rock Railroad
B&NFRR	Buffalo and Niagara Falls Railroad
BECHS	Buffalo and Erie County Historic Society
BFEPBA	Buffalo and Fort Erie Public Bridge Authority
BP	before present
BSRWC	Buffalo Street Railway Company
DEA	Draft Environmental Assessment
DEIS	Draft Environmental Impact Statement
FCR	fire-cracked rock
FHWA	Federal Highway Administration
GPR	ground-penetrating radar
km	kilometer
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NYCRR	New York Central Railroad
NYSDOT	New York State Department of Transportation
NYSM	New York State Museum

## List of Abbreviations and Acronyms (cont.)

OPRHP	Offices of Parks, Recreation, and Historic Preservation
PB&C	Porter, Barton, and Company
SHPO	State Historic Preservation Offices
ST&C	Sill, Thompson, and Company
SUNY Buffalo	State University of New York at Buffalo
Ud	Urban Land
Ug	Urban Land-Cayuga Complex
UmA	Urban Land-Collamer Complex
USGS	United States Geological Survey
WC	water closet



# 1

## Introduction

The Buffalo and Fort Erie Public Bridge Authority (BFEPBA) and the Federal Highway Administration (FHWA), in cooperation with the New York State Department of Transportation (NYSDOT), are preparing a Draft Environmental Impact Statement (DEIS) to study the effects of a proposed plan for expansion of the Peace Bridge at the international crossing from Buffalo, New York, to Fort Erie, Ontario. The project is intended to provide a facility capable of efficiently accommodating present and future traffic volumes of people and goods crossing the border while maintaining and enhancing the safety, security, and social and economic welfare of the adjoining communities and protecting environmental concerns. A description of the proposed project is discussed in Section 2.

The 1966 National Historic Preservation Act (NHPA) (Public Law 89-665, as amended by Public Law 96-515; 16 USC 470 et seq.) provides for the establishment of the National Register of Historic Places (NRHP), which includes historic properties such as districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, and culture. Section 106 of the NHPA requires federal agencies with jurisdiction over a proposed federal project to take into account the effect of the undertaking on cultural resources listed or eligible for listing on the NRHP and afford the State Historic Preservation Offices (SHPO) and the Advisory Council on Historic Preservation (ACHP) an opportunity to comment with regard to the undertaking. The NRHP eligibility criteria have been defined by the Secretary of the Interior's Standards for Evaluation (36 CFR 60). Because the Peace Bridge expansion is a federally mandated project, historic properties within the area of potential effect (APE) are the subject of these statutes, and any potential effects on them require state and federal review.

The guidelines governing the conduct of cultural resource investigations in New York State are contained in the *Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State* (1994) formulated by the New York Archaeological Council and approved by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). These guidelines provide the appropriate sequence of cultural resource management procedures for identification and evaluation of historic properties; mitigation of adverse effects on these properties; resource documentation; and curation of ar-

chaeological collections. These guidelines also specify the appropriate content of archaeological reports.

On January 14, 2004, OPRHP reviewed the plans for the Peace Bridge Capacity Expansion Project, which consisted of two alternatives for expansion of the U.S. plaza, Alternatives 1 and 2 (Herter 2004). The OPRHP determined that, as the first step in compliance with Section 106 of the NHPA, a Phase IA Archaeological Survey must be completed for Alternatives 1 and 2 of the proposed project. A determination also was made that a historic structures survey of the project areas was needed. A historic structures survey was conducted and submitted to OPRHP in February 2004 for review and a determination of NRHP eligibility. A discussion of the historic structures within the project area is presented in **Chapter VI** of this DEIS.

The purpose of the Phase IA Archaeological Survey is to assess the archaeological sensitivity of the study area, predict types and locations of archaeological resources, and provide recommendations for field investigations (Phase IB Archaeological Survey). The OPRHP formulated specific requirements for the scope and content of the Phase IA Archaeological Survey of the proposed Peace Bridge Plaza under Alternatives 1 and 2 (see Attachment A) (Herter 2004). The No Build Alternative will not result in ground alteration or excavation. Consequently, it will not affect archaeological resources and thus is not assessed in this report. The No Build Alternative is described in Section 2 only as a means of clarifying to the reader the overall project plan.

Ecology and Environment, Inc. (E & E) conducted the Phase IA Archaeological Survey for the original Alternatives 1 and 2 from January through May 2004. Data collection for the project took place at the OPRHP offices in Cohoes, New York; the Archaeological Survey at the State University of New York SUNY at Buffalo (SUNY Buffalo); the Buffalo and Erie County Historical Society; and the Buffalo and Erie County Public Library.

Subsequent to the OPRHP's review of the plans for the proposed Peace Bridge Capacity Expansion Project, the two U.S. plaza alternatives for the Peace Bridge Plaza changed:

- Alternative 1 has been redesigned and expanded and now has the designation of Alternative 1B - R3 (hereinafter referred to as Alternative 1);
- Alternative 2 was dropped from consideration; and,
- A new Alternative 3 was developed that includes three different sub-options for the road connections to Interstate 190 and the city of Buffalo streets. All three sub-options partially overlap the new Alternative 1.

Data collection undertaken for the initial Phase IA Archaeological Survey for Alternatives 1 and 2 encompass areas now covered by the revised Alternative 1 and the three sub-options for Alternative 3; therefore, no new data collection was required.

Dr. Nancy Herter of the OPRHP was instrumental in formulating the appropriate scope and direction of the research. Dr. Douglas J. Perrelli assisted with data collection at SUNY Buffalo and offered many valuable insights and suggestions. Raelynn Harlach used her expertise in graphic software (CorelDraw) to create technical figures. Thomas Vogler and Lisa McFail performed map analysis, created figures, and prepared maps combining modern data sources and georeferenced representations of historic maps. Fred J. McKosky and James D. Griffis served as Contract Manager and Project Manager, respectively. John Sander and Valerie Marvin edited the text of the report. Leonid I. Shmookler, Daniel M. Cadzow, and Natasha B. Snyder served as principal investigator and historical researchers, respectively, and authored this report.



# 2

## Project Background and Description

### 2.1 Project Background

The Buffalo and Fort Erie Public Bridge Authority (BFEPBA) and the Federal Highway Administration (FHWA), in cooperation with the New York State Department of Transportation (NYSDOT), are preparing a Draft Environmental Impact Statement (DEIS) to study the effects of a proposed bridge expansion plan at the international crossing from Buffalo, New York, to Fort Erie, Ontario (see Figure 2-1). The project is intended to provide operational, functional, and security improvements that will relieve congestion and enhance the overall efficiency and functionality of the existing border crossing. This facility will be capable of efficiently accommodating present and future traffic volumes of people and goods crossing the border while maintaining and enhancing the safety, security, and social and economic welfare of the adjoining communities, improving the quality of life through the mitigation of traffic-related impacts associated with international crossings, and protecting environmental concerns.

Expansion of the bridge's capacity through improvements to the existing plazas and construction of a companion bridge has been the subject of several reports, most notably the Draft Environmental Assessment (DEA) prepared in 1996 and a Draft Environmental Impact Statement (DEIS) prepared in 1998, which culminated in approval for a companion span and issuance of the necessary permits by both the responsible U.S. and Canadian federal, state, and provincial agencies. The history of these initiatives is documented in Chapter II of the Final Scoping Document. Information presented in the previous DEA and DEIS, along with other associated reports, formed the basis for this DEIS and is cited throughout the text.

### 2.2 Description of Alternatives

For the purpose of this DEIS, three alternatives will be analyzed: (1) No Build/Existing Conditions, (2) Build Alternative 1 – Maximization of the Existing U.S. Plaza, and (3) Build Alternative 3 – Shared Border Management (SMB). Alternative 1 presented in previous versions of the DEIS has been redesigned and expanded and now has the designation of Alternative 1B - R3 (hereinafter referred to as Alternative 1). Alternative 3 includes three interstate and local U.S. connecting road options, all of which share a common inspection plaza in Fort Erie, On-

## 2. Project Background and Description

tario. A table summarizing the alternatives under consideration and a brief description of these alternatives are provided below. More detailed descriptions are provided in Chapter III of this DEIS. The project limits for Alternatives 1 and 3 are indicated on Figure 2-2.

Alternative Description	Individual Project Component to be Studied					
	Alternative 1 Plaza & Connections	SBM 13G-R1 Plaza & Connections	SBM 23B-R1 Plaza & Connections	SBM 23B-R2 Plaza & Connections	SBM 16A R2 Plaza & Connections	Companion Bridge
Null Alternative - No Build						
Alternative 1						
w/ Bridge	•					•
w/o Bridge	•					
Alternative 3						
Option SBM 13G-R1 w/ Bridge		•			•	•
Option SBM 13G-R1 w/o Bridge		•			•	
Option SBM 23B-R1 w/ Bridge			•		•	•
Option SBM 23B-R1 w/o Bridge			•		•	
Option SBM 23B-R2 w/ Bridge				•	•	•
Option SBM 23B-R2 w/o Bridge				•	•	

### 2.2.1 No Build Alternative

The Null, or No Build, Alternative does not provide for future capacity expansion at the Peace Bridge through either construction of a new bridge crossing or expansion or enhancement of the current U.S. and Canadian plazas. Under this alternative all identified deficiencies within the project area would not be addressed. This alternative does not meet the project objectives. Any maintenance activities conducted at an undetermined future date would be outside of the scope of this project.

### 2.2.2 Alternative 1: Maximize Use of the Existing U.S. Plaza

This alternative would reconfigure and expand U.S. Customs and Border Protection (CBP) facilities by maximizing use of the existing U.S. plaza footprint and minimizing expansion/acquisition of parcels in the neighborhood to the east and north of the U.S. plaza. The Canadian plaza would be the same as described in the No Build Alternative, including all previously approved improvements as described above.

This alternative calls for expansion of the existing U.S. plaza eastward and northward across Busti Avenue and Seventh Street north of Vermont Avenue. The design of Alternative 1 is based on maximizing use of the existing Peace Bridge plaza area while meeting federal highway design standards and complying with the U.S. Land Port of Entry Design Guide and the draft program requirements developed in consultation with U.S. CBP and the U.S. General Services Administra-

## **2. Project Background and Description**

tion (GSA). The expansion would accommodate (1) additional primary auto and truck booths, (2) enlarged vehicle secondary inspection areas, (3) additional required employee parking areas, (4) a relocated Duty Free Shop, and (5) the required circulation roadways. In addition, the circulation roadways are configured to allow for export inspection, if necessary. U.S. plaza access to and from the city would be by way of a new gateway circle located at the intersection of Niagara Street and Hampshire Street, or by a new ramp from Porter Avenue to the existing Ramp N.

See Chapter III of the DEIS for a more detailed explanation and illustration of this alternative.

### **2.2.3 Alternative 3: Shared Border Management**

Alternative 3 would relocate and consolidate the U.S. inspection facilities and operations to an expanded Canadian plaza. Alternative 3 includes three U.S. plaza options and one common Canadian plaza option that make better use of currently owned BFEPA land by minimizing takes in Fort Erie and Buffalo where possible. The U.S. plaza options minimize the footprint of improvements in the U.S. and enhance the connections to the I-190 and Buffalo city streets. All three U.S. connecting road SBM options share a common inspection plaza in Fort Erie, Ontario (SBM 16A-R2).

#### **Option 13G-R1**

This SBM option calls for the construction of new circular connecting roadways surrounding a Duty Free Shop connected to the bridge(s). This option would extend primarily to the east and north of the existing plaza and require acquisition of three city blocks of residential neighborhood extending from Rhode Island Street to Hampshire Street and from Busti Avenue to Niagara Street. A new gateway circle would be constructed along Niagara Street mid-block between Rhode Island Street and Massachusetts Street to provide local access to Buffalo city streets. This option also includes a ramp connecting directly to the I-190 northbound and new and reconfigured ramps from Porter Avenue to Ramp N and the I-190 northbound, respectively.

#### **Option 23B-R1**

This option would utilize the existing plaza for connecting roads to and from the bridge(s). The Duty Free Shop would be relocated to the block of land now occupied by the Episcopal Church Home and bounded by Busti Avenue and Massachusetts, Seventh, and Rhode Island streets. Access to Buffalo city streets would be through a new traffic circle constructed at the corner of Niagara Street and Hampshire Street. This option includes new and reconfigured ramps from Porter Avenue to Ramp N and the I-190 northbound, respectively, and would permit the construction of a Gateway Visitor's Center located in the center of the connecting roadway ramps. In addition, the southeast corner of the existing plaza would not be utilized.

## **2. Project Background and Description**

### **Option 23B-R2**

This option is very similar in design to Option 23B-R1 except that all connecting roadways, ramps, and the Duty Free Shop are located within the existing plaza footprint. This option is considered an avoidance option under NEPA in that it avoids impacts on adjacent properties to the fullest extent possible. This option does not entail the acquisition of any additional property except that which is needed for the new traffic circle at the corner of Niagara Street and Hampshire Street. As with Option 23B-R1, this option includes new and reconfigured ramps from Porter Avenue to Ramp N and the I-190 northbound, respectively, and would permit the construction of a Gateway Visitor's Center located in the center of the connecting roadway ramps.

### **SBM 16A-R2**

This option is studied in conjunction with each U.S. SBM connecting roadway option. Similar to Alternative 1, the design for this plaza in Fort Erie, Ontario, is based on maximizing the use of existing Fort Erie Peace Bridge plaza area while meeting federal highway design standards and complying with the U.S. Land Port of Entry Design Guide and the draft program requirements developed in consultation with CBP and the U.S. GSA. Several concepts were developed that did not require any additional right-of-way. However, after consultation with CBP, these concepts were discarded because internal traffic circulation patterns were unacceptable; therefore, right-of-way from Niagara Parks would be required.

The SBM concept provides for a Fort Erie SBM plaza contained mostly within the footprint of the existing Fort Erie plaza. Unlike the three options for the U.S. plaza under Alternative 3, the Fort Erie SBM plaza would not require significant changes to the existing roadway network entering or exiting from the plaza area; consequently, an efficient plaza layout could be accommodated within a reasonable area. Access to and from the Duty Free Shop, local streets, and the Queen Elizabeth Way (QEW) would remain unchanged.

See Chapter III of the DEIS for a more detailed explanation and illustration of this alternative and its plaza options.

### **Bridge Construction**

Both Build Alternatives may consider construction of a companion bridge to the south of the existing bridge. Considering that the existing Peace Bridge is a historic monument with high cultural value, the main goals for the design of the companion bridge include the following:

- The design of a companion bridge together with the existing bridge should reflect the development of bridge design over the past 80 years.
- The visual impact of a companion bridge on the existing bridge must be minimal.

## **2. Project Background and Description**

- The design of a companion bridge must consider construction costs.
- Maintenance of a companion bridge must be simple and economical.

The jury-selected concept for the companion bridge is a cable-stay design incorporating an A-frame over the roadway. While the final design of the companion bridge is still under development, the proposed project calls for the new bridge to land adjacent to the existing bridge and within the current plaza limits. Chapter III of the DEIS describes the design of the new bridge in more detail.

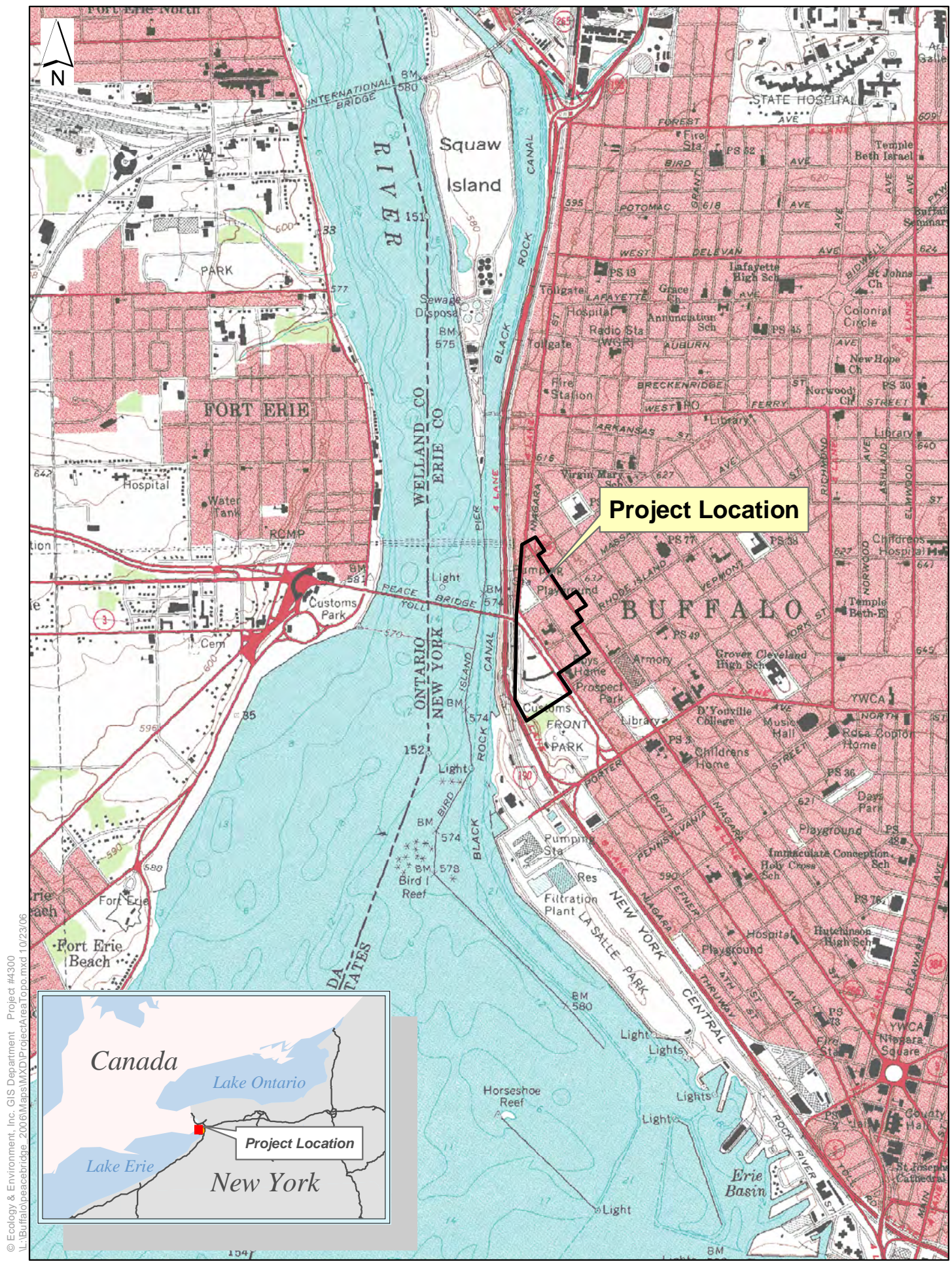
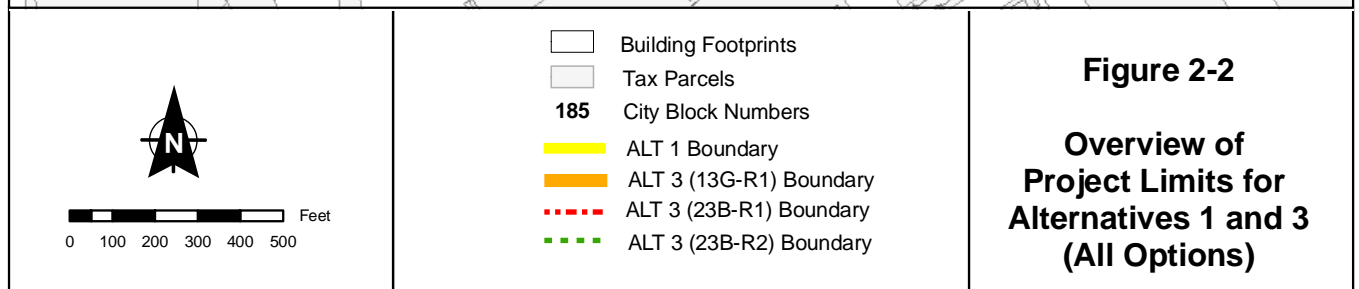
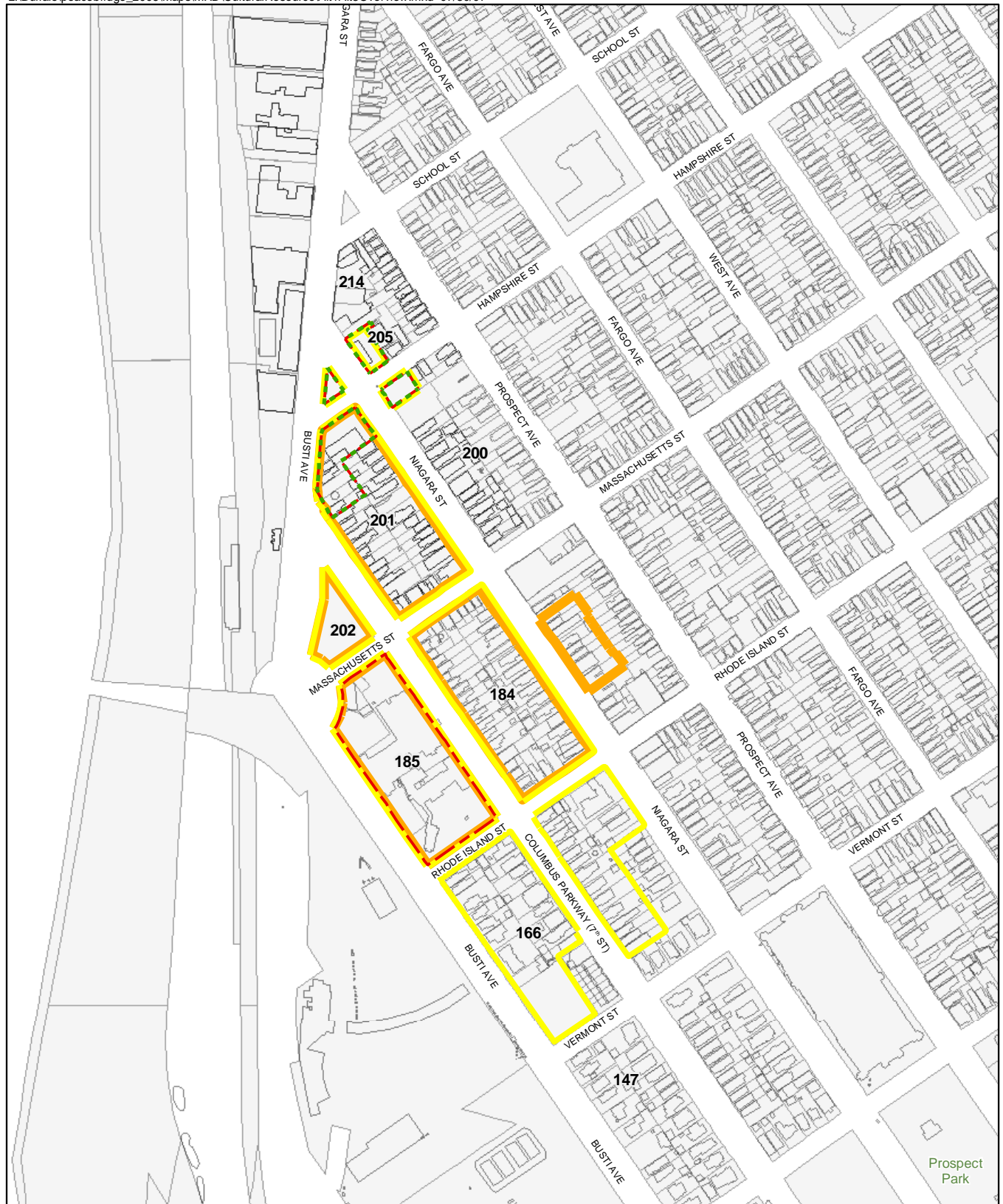


Figure 2-1 Project Location Map

PBA000826





# 3

## Physiography, Geomorphology, and Soils

### 3.1 Geology

The bedrock of Erie County is of Upper Silurian (421 to 408 million years ago) and Middle and Upper Devonian (387 to 360 million years ago) age. The project area is underlain by Onondaga Limestone. This limestone formed in a shallow, Middle Devonian sea abounding with corals and bottom-dwelling organisms (Isachsen et al. 1991:6 and 101; Owens et al. 1986:2). The Onondaga formation extends the width of New York State and ranges in thickness from 18 to 50 meters (59 to 164 feet). It includes, in ascending order, four members: Edgecliff, Nedrow, Moorehouse, and Seneca. In the Buffalo area the Edgecliff member is approximately 12 to 14 meters (39 to 46 feet) thick and consists mostly of the chert-bearing Clarence facies. The limestones of these facies are interbedded with medium to dark gray cherts that may constitute up to 50% of the volume of the rock (Brett and Ver Straeten 1994:228-234). In the project area, bedrock is deeper than 1.5 meters (5 feet) (Owens et al. 1986:134-137 and plate 35).

### 3.2 Physiography

The project area lies within the Erie-Ontario Lake Plain physiographic province (Owens et al. 1986:2). In Erie County the elevations increase toward the south, ranging from 172 meters (565 feet) above mean sea level (amsl) in the north to 593 meters (1,945 feet) amsl in the south (Buehler and Tesmer 1963:9). Elevations within the project area range from approximately 189 meters (620 feet) amsl in the north to 192 meters (630 feet) amsl in the south (USGS 1965).

Over the last 300,000 years, the Erie-Ontario Lake Plain has been affected by numerous glacial advances and retreats (Calkin 1982:123-130). The Wisconsin ice sheet scoured the bedrock and mantled the lake plain with glacial till composed of unsorted clay, silt, sand, gravel, and boulders (Isachsen et al. 1991:166-7). Buffalo Moraine, which indicates a terminus of one of the glacial re-advances, is located immediately south of the project area. This is part of a complex of moraines on the Erie-Ontario Lake plain. The exact date of the moraine's formation is unknown.

As the ice sheets retreated during the Late Wisconsin stage, a series of proglacial lakes formed in the Erie Basin. The highest proglacial lake strandline, which is in

### **3. Physiography, Geomorphology, and Soils**

East Aurora, New York, is 277 meters (910 feet) amsl (85 meters, or 280 feet, above the project area). It is correlated with the Port Huron Stade (glacial advance). It is attributed to proglacial Lake Whittlesey, which formed around 13,000 years before present [BP]). As the glaciers retreated further to the north, lower avenues for the meltwater to escape were opened. This caused the formation of several phases of Lake Warren, followed by Lake Tonawanda and Lake Iroquois, respectively (Calkin 1966:59-61; Muller et al. 2003:5). At the time of Lake Warren, the project area was still submerged. It was not until the formation of Lake Tonawanda, circa 12,000 BP, that the waters of the proglacial lakes would permanently leave the project area (Muller et al. 2003:5-8).

The ice sheets of the Wisconsin glaciation scoured the bedrock of the region surrounding the project area. The subsequent retreat of the ice sheets left a mantle of till (ground moraine), as well as several end moraines on the surface. The ensuing proglacial lakes then submerged the area, depositing sediments from inflowing streams and glacial meltwater. This resulted in lacustrine deposits overlaying glacial till, which rests upon bedrock.

#### **3.3 Drainage**

The dominant feature of local geology is the Niagara River channel, the course of which has been greatly affected by glaciation. Prior to the most recent glaciation, St. David's Gorge was carved by the waters flowing over the Niagara Escarpment. The gorge and associated waterfall were comparable to Niagara Falls and its gorge. As the glaciers retreated, St. David's Gorge was filled with till. The post-glacial waters, however, found a new outlet over the Niagara Escarpment, approximately 8 kilometers (km) (5 miles) east of the original outlet. At Whirlpool State Park the path of the new gorge intersected the old path. When the two paths crossed, the falls likely deteriorated to steep rapids until the glacial till was sluiced away. The rock strata that comprise the Niagara Escarpment facilitate and maintain the falls. The uppermost stratum is a 24-meter- (80-foot-) thick layer of hard dolostone of the Late Silurian Lockport group. This stratum is underlain by over 61 meters (200 feet) of generally weak shales, limestones, and sandstones. Water action erodes the rock below the resilient dolostone, resulting in the falls. Eventually, the dolostone, no longer supported by the rock beneath it, breaks along joint lines and falls into the gorge. In this way the falls migrate toward the source of the water (Van Diver 1985:44-53).

The Niagara River is 53 km (33 miles) long, and, save the gorge below the falls, has no well-defined valley. The Great Lakes act as settling basins; therefore, there is no appreciable sediment in the waters of the river. From beginning to end there is a 99-meter (326-foot) drop in elevation, half of which occurs at Niagara Falls and the rapids above and below the falls. The Onondaga Escarpment is marked by the mild rapids near the Peace Bridge at Buffalo, New York/Fort Erie, Ontario (Van Diver 1985:43-4). The project area is situated along the eastern bank of the Niagara River near the head of the river (i.e., the outlet of Lake Erie). Scajaquada

### **3. Physiography, Geomorphology, and Soils**

Creek, located approximately 1,800 meters (5,900 feet) north of the project area, empties into the Niagara River.

#### **3.4 Soils**

The project area is within the Urban Land map unit. These soils include primarily nearly level urbanized areas and areas of well to poorly drained soils on lowland plains. In the Urban Land portion of this unit, little of the original undisturbed soils remain. Residential blocks, parking lots, roads, business districts, shopping centers, and industrial complexes are common (Owens et al. 1986:17). Impacts on natural soils include excavation, grading, and filling that took place during residential development.

According to the Soil Survey of the Erie County (Owens et al. 1986: Sheet 35), the project area contains three specific soil types: Urban Land (Ud); Urban Land-Cayuga Complex (Ug); and Urban Land-Collamer Complex, 1 to 6 % slopes (UmA).

The Urban Land (Ud) soils consist of miscellaneous areas where 80% or more of the surface is covered with concrete, asphalt, buildings, or other impervious structures. These areas range from 1.2 to 121 hectares (3 to 298 acres) in size and include parking lots, business centers, and industrial centers. These areas often have several feet of fill (Owens et al. 1986:133). According to the Soil Survey of Erie County, these soils are found within the project area west of Niagara Street and Busti Avenue (Owens et al. 1986:Plate 35).

The Urban Land-Cayuga Complex (Ug) soil unit consists of Urban Land and locations of deep, well-drained and moderately well drained Cayuga soils. These acidic to neutral soils are formed on till plains that are overlain by lake-laid sediments. Bedrock is deeper than 1.5 meters (5 feet). Cayuga soils have a seasonally perched water table in the lower part of the subsoil. Where undisturbed, Cayuga soils are slowly permeable in the subsoil and substratum, have a moderate to high available water capacity, and have medium runoff (Owens et al. 1986:134-5). According to the Soil Survey of Erie County, these soils are found within the project area north of Hampshire Street and east of Niagara Street (Owens et al. 1986:Plate 35).

The Urban Land-Collamer Complex, 1 to 6% slopes (UmA) consists of Urban Land and areas of silty, deep and moderately well drained Collamer soils that developed in glacial deposits. These areas range from 2 to 202 hectares (5 to 500 acres) and are found in residential areas, business centers, and industrial parks. Collamer soils have a seasonally high water table. Where undisturbed, Collamer soils are slowly to moderately slowly permeable in the substratum, have a high available water capacity, and have medium to moderately rapid runoff (Owens et al. 1986:136-7). According to the Soil Survey of Erie County, these soils are found within the project area south of Hampshire Street and east of Niagara Street and Busti Avenue (Owens et al. 1986:Plate 35).

### ***3. Physiography, Geomorphology, and Soils***

Based on direct observation of the project area during a series of visits in December 2003, the overwhelming majority of natural surface has been eliminated outright or has sustained significant impact in the upper solum.

# 4

## Prehistoric Background

**In accordance with Section 304 of the National Historic Preservation Act of 1966 (as amended), this document has been amended to remove site-specific location information about archaeological resources for protective purposes (see 36 CFR 800.11 (c)(1), Protection of Historic Properties; Documentation Standards), prior to its release to the general public.**

### 4.1 Paleo-Indian Period

The prehistoric occupation of western New York dates back at least 12,000 years. Adovasio (2002) and others believe occupation of North America began much earlier; however, evidence is not expected to be preserved in glaciated portions of western New York. Native American occupation in northeastern North America is typically divided into periods, or stages, based on our understanding of economic, technological, and social organization as determined through archaeological data and interpretation. The earliest Paleo-Indian period (ca. 10,500 to 8,000 BCE) is poorly understood but is fairly well represented in western New York compared to other parts of the Northeast. Paleo-Indian subsistence practices fall within the hunter-gatherer pattern (Ellis and Deller 1990). Exploitation of megafauna, deer, and elk, supplemented by the collection of small animals and available plant resources, is thought to have provided the subsistence base for this period. Single stray finds of projectile points provide much of the evidence for human activity in the region at this time. The primary diagnostic point types for this period in southern Ontario and western New York include Gainey, Barnes, Crowfield, and Hi-Lo types, as well as the Clovis point, which is readily identified by the pronounced fluting caused by the removal of channel flakes from one or both surfaces of the artifact (see Table 4-1; Williamson, R., 2004:2; Ellis and Deller 1990:37-64; Ritchie 1971:21-22; Justice 1987:17-24). Ritchie (1980:4-5) reports that fluted points found in western New York are located along major stream channels, and sites should therefore be expected to occur in these areas, although a few upland sites also are known. No fluted point finds are located in the Niagara River corridor by Ritchie (1980).

## 4. Prehistoric Background

**Table 4-1 Outline of Niagara Frontier Aboriginal History (Williamson 2004:2)**

Period	Common Ontario and New York Referents	Approx. Date Range	Attributes
<b>Paleo-Indian</b>			
Early	Gainey, Barnes, Crowfield	9,000–8,500 B.C.	Big game hunters
Late	Holcombe, Hi-Lo, lanceolate	8,500–7,500 B.C.	Small nomadic groups
<b>Archaic</b>			
Early	Nettling, Bifurcate-base	7,800–6,000 B.C.	Nomadic hunters and gatherers
Middle	Kirk, Stanly, Brewerton, Laurentian	6,000–2,000 B.C.	Transition to territorial settlements
Late	Lamoka, Genesee, Crawford Knoll, Innes	2,500–500 B.C.	Polished/ground stone tools (small stemmed)
<b>Woodland</b>			
Early	Meadowood, Middlesex	800 - 400 B.C.	Introduction of pottery
Middle	Point Peninsula, Saugeen	400 B.C.– A.D. 600	Longer term settlement, subsistence and territorial patterns
Transitional	Princess Point, Hunter's Home	A.D. 600–900	Incipient horticulture
Late	Early Ontario Iroquoian (Ontario) Owasco (New York)	A.D. 900–1300	Transition to village life and agriculture
	Middle Ontario Iroquoian (Ontario) Late Prehistoric Iroquois/Oak Hill and Chance (New York)	A.D. 1300–1400	Establishment of large palisaded villages
	Late Ontario Iroquoian (Ontario) Late Prehistoric Iroquois/Garoga (New York)	A.D. 1400–1600	Tribal differentiation and warfare
<b>Historic</b>			
Early	Neutral (Ontario), Seneca (New York)	A.D. 1600–1650	Tribal displacements (Ontario)
Late	Six Nations Iroquois (New York, Ontario), Ojibwa (Ontario)	A.D. 1650–1800s	Migration, displacement, community realignment (New York and Ontario)
	European	A.D. 1800– present	European settlement

### 4.2 Archaic Period

Ritchie (1932) first used the term Archaic to describe the Lamoka culture, based on excavations at Lamoka Lake and other sites in New York State. The Brewerton Phase/Laurentian Archaic Tradition was later added to the Archaic period and placed before the Lamoka-Normanskill or Narrow Point Tradition, having a different trait list as developed by Ritchie (1936), particularly in the area of projectile point types. The Archaic period has since grown to encompass a variety of cultures and time-periods (Smith, O'Donnell, and Holland 1998). More recently, the relationship between the Lamoka and Brewerton cultures has grown closer, with some spatial and temporal overlap identified. In general, the Archaic is defined as a non-ceramic, pre-horticultural, hunting, fishing, and gathering cultural pattern with seasonal residential shifts.

## **4. Prehistoric Background**

Compared to Paleo-Indian sites, Erie County is rich in Archaic period occupations. The period spans a large time range (ca. 8,000 to 1,000 B.C.) and is differentiated from the preceding Paleo-Indian period by stark changes in stone tool assemblages, population increases reflected by an increased range of site types, and changes in subsistence strategies (Funk 1983). The period is sub-divided into three different phases: Early, Middle, and Late, with a Transitional stage from about 1,500 to 1,000 B.C. leading to the Woodland period (Ritchie 1980). This nomenclature differs little from that put forth more recently for southern Ontario (Ellis, Kenyon, and Spence 1990). The Archaic sub-phases are differentiated more by changes in the diversity of artifact assemblages than in clear shifts of settlement or subsistence strategies. Subsistence and settlement patterns are assumed to be those of highly mobile hunting and gathering groups with social organization at the band level. This way of life is assumed to be an adaptation to the early post-glacial environment and plastic enough to maintain through a considerable duration of time. The Late Archaic period represents the florescence of pre-ceramic culture in the Northeast (Mason 1981).

The Peace Bridge project area has the potential to yield material from different Archaic cultures based on the presence of Brewerton, Lamoka, Vergennes, Stark Stemmed/ Morrow Mountain, and LeCroy (bifurcate base) points found repeatedly in similar settings along the Niagara River corridor (Ritchie 1980; Smith, O'Donnell, and Holland 1998; Williamson and MacDonald 1997; Williamson 2004; Sheehan and Perrelli 1998; Nafus 1998:132). Numerous Archaic period diagnostics have been found on the ground surface in the Niagara River corridor. These point types represent culture groups that inhabited the region during the Middle Archaic I (ca. 6,000 to 4,500 B.C.) through the Terminal Archaic periods (ca. 1,000 B.C.). Although one collection has 89 artifacts includes a beveled adze diagnostic of the Lamoka culture, a hunting and gathering people who inhabited the region from approximately 2,500 to 1,800 BCE certain prehistoric cultures are conspicuously absent. Paleo-Indian, Early Archaic, and certain Middle Archaic diagnostics are lacking, which may be connected to the presence of Lake Tonawanda, a shallow (10 meters or 38 feet) post-glacial lake that covered much of northwestern New York from about 12,000 to 11,000 BP and more intermittently until about 3,800 BP. Sites along the Niagara River corridor continue to yield information important for paleo-environmental reconstruction in addition to information about human occupation through time.

### **4.2.1 Early Archaic Period**

Support for Early Archaic occupations in western New York is supplied by Smith, O'Donnell, and Holland (1998) in general, and more specifically for the Niagara River corridor by Nafus (1998:132-135). Smith, O'Donnell, and Holland (1998:1) suggest that this early Holocene period remains the most poorly understood of any prehistoric cultural period in the region. This situation is, in part, a result of controlling paradigms such as that put forth by Ritchie (1980), which stated that the Lamoka and Brewerton cultures were the oldest documented Archaic inhabitants of western New York. As late as the mid-1970s, Ritchie and

#### 4. Prehistoric Background

Funk (1973:337) felt that there was no good evidence for Early Archaic habitation in New York, only sporadic visits by roving hunter-gatherers from elsewhere in the Ohio Valley. A lack of clear data and contextual information also contributes to the problem. The survey of artifact collections from western New York by Smith, O'Donnell, and Holland (1998) shows numerous point types attributable to this early period. Nafus (1998) provides clear evidence for bifurcate base points occurring in the Niagara River corridor.

Stark stemmed points and the similar Morrow Mountain cluster points often go unrecognized but are frequently collected from the ground surface in western New York (Smith, O'Donnell, and Holland 1998:36). Similar material has been collected from stratified deposits elsewhere in the northeast (Dincauze 1976). Anticipated Early-Middle Archaic site types include larger base camps and smaller logistical camps. This way of life is assumed to be an adaptation to post-glacial environments. Social organization is assumed to have been at the band level. This settlement pattern is generally used to characterize much of the Archaic period, as well as the preceding Paleo-Indian period (Ellis and Deller 1990), and even the subsequent Early Woodland period (Granger 1978). Material from sites in the Niagara River corridor may help to dispel the myth that population growth and human activity were limited in the Great Lakes area until the end of the Middle Archaic period (Mason 1981:112).

##### 4.2.2 Middle Archaic Period

The later and better understood portion of the Middle Archaic II period is represented by Brewerton Phase material (Ritchie 1980:89-104; Ellis, Kenyon, and Spence 1990:86). Brewerton Phase (2,500 to 2,000 B.C.) populations were broad-spectrum hunter-gatherers that relied on a wide range of resources. Such sites are assigned to the "Laurentian Archaic," a term applied to a range of Archaic groups that lived primarily in the "Lake-Forest" region of the Great Lakes area. A number of ground stone, chipped stone, and bone tools are diagnostic (Ellis, Kenyon, and Spence 1990). Sites of this period tend to be small camps located to suggest an increased reliance on plant foods and fishing.

**Table 4-2 Summary of diagnostic point types collected by A.L. Benedict from the Fifteen Mile Post site by cultural period (Sheehan and Perrelli 1998)**

Whole Points	Bifaces	Point Frags	Total Artifacts	Temporal Period	Approximate Date	Culture/ Tradition	Point Types
6	0	2	8	Late Woodland	A.D. 900-1500	Owasco, Iroquoian	Levanna, Madison
0	8	4	12	Early Woodland	900-400 B.C.	Meadowood	Meadowood
2	0	1	3	Terminal Archaic	1,000-800 B.C.	Glacial Kame	Hind
13	0	3	11	Late Archaic	1,500-1,000 B.C.	Small Point	Ace of Spades, Crawford Knoll, Innes

#### 4. Prehistoric Background

**Table 4-2 Summary of diagnostic point types collected by A.L. Benedict from the Fifteen Mile Post site by cultural period (Sheehan and Perrelli 1998)**

Whole Points	Bifaces	Point Frags	Total Artifacts	Temporal Period	Approximate Date	Culture/ Tradition	Point Types
8	0	3	11	Late Archaic	2,000-1,500 B.C.	Broad Point	Genesee, Perkiomen, Susquehanna
10	0	5	15	Late Archaic	2,500-1,800 B.C.	Narrow Point	Lamoka, Normanskill
3	0	0	3	Middle Archaic II	2,500-2,000 B.C.	Brewerton	Brewerton
1	0	0	1	Middle Archaic II	3,500-3,000 B.C.	Vergennes	Otter Creek
1	0	4	5	Middle Archaic I	6,000-4,500 B.C.	?	Stark Stemmed /Morrow Mtn.

##### 4.2.3 Late Archaic Period

The Late Archaic period (2,500-1,800 B.C.) is represented by Lamoka material in the Niagara River corridor. In many respects, adaptive strategies of the Lamoka Phase are assumed to mimic those of the partly overlapping Brewerton Phase. Preferences for settlement locations are essentially the same. The geographic limits of the Brewerton Phase closely approximate those of the Lamoka Phase (Ritchie 1980). The "...principal difference would seem to be in the greater emphasis on hunting in the Brewerton, on fishing and acorn collecting in the Lamoka" (Ritchie 1980:91).

The Lamoka culture is viewed as a possible intruder from the south that may have eclipsed the Laurentian cultures for a time in parts of the Northeast, hence the confusion about the relationship of these two cultural entities. Brewerton and Lamoka settlement patterns remain poorly defined because most sites with diagnostic tool forms are multi-component, with contextual uncertainties. Brewerton sites tend to be confined to the Canadian biotic province, a region where reliable plant food sources are limited, suggesting the increased reliance on hunting and fishing. The number and size of sites during this phase increase when compared to previous eras, suggesting a period of significant population increase and subsistence/settlement change.

Two generalized types of Brewerton sites are reported for southeastern Ontario (Ellis, Kenyon, and Spence 1990). Small, briefly used camp sites are found exclusively in upland locations, whereas larger sites displaying significant duration of occupation occur only on major bodies of water. The larger site type seems to represent long-term, recurrent occupations of favored summer camps and fishing stations. Burials are interred only at the larger base camps and are scattered throughout these sites, being mixed with habitation debris. Burials occur in a variety of forms at such sites, including extended articulated graves, bundles, and cremations. This mix of burial forms suggests that individuals who died while

## 4. Prehistoric Background

away from base camps were brought back to these important sites for interment. Summer base camps probably served a variety of seasonal functions, being completely abandoned only during the winter months. This implies that winter habitation sites serving small family groups may exist in upland areas at this time.

### 4.2.4 Transitional Period

The Archaic-Woodland transition in eastern North America is important in terms of subsistence and technological shifts and culture change (Mason 1981; Ritchie 1980; Ellis and Ferris 1990). A fundamental archaeological distinction between Archaic and Woodland cultures is the manufacture and use of pottery among the latter. Evidence of shifts in subsistence, settlement, technology, and social organization may be represented in the Peace Bridge project area in that Late Archaic, Terminal Archaic, and Early Woodland materials have been recovered nearby (Ellis, Kenyon, and Spence 1990). Evidence of the domestication of native plant foods (Smith 1995), the adoption of a horticultural means of subsistence, the development of ceramics, and the aggregation of large groups into long-term base settlements and eventually village communities could be found. Like the preceding Archaic populations, Woodland cultures began as hunter-gatherers but through time came to rely on the exploitation of cultigens and a more sedentary life style. The transition to horticultural subsistence was not sudden or consistent across the Northeast. The degree to which different groups relied on cultigens and practiced horticulture was probably variable throughout the Middle Woodland and into the Late Woodland period, perhaps until as late as ca. A.D. 1300. This Transitional Stage is distinguished in certain parts of the Northeast by the appearance of the Susquehanna, or Broadspear, culture, artifact assemblages containing steatite bowl fragments, and an increasing reliance on vegetal resources (Ritchie 1980; Ritchie and Funk 1973).

### 4.3 Woodland Period

The Woodland Period (ca. 1,000 B.C. to A.D. 1550) is divided into three sub-phases—Early, Middle, and Late; however, these have somewhat different meanings in Ontario and New York (Ritchie 1980; Ellis and Ferris 1990). The Early Woodland Period is similar in both areas, and the Meadowood culture will be used as the model for Early Woodland land use in the Niagara River corridor. Given that the prehistory of the Niagara Frontier in New York is virtually the same as in Ontario, and that the cultural history of Middle and Late Woodland southern Ontario is better understood than that of western New York, local and regional context statements rely on chronological frameworks, site data and nomenclature from research conducted in southern Ontario. The two key differences between established frameworks in New York and Ontario relate to how the Middle and Late Woodland Periods are defined. First, Ontario scholars appear to have a better handle on Middle Woodland material culture and chronology through the Accelerated Mass Spectrometry (AMS) dating of ceramic encrustations. Second, Ontario scholars treat the Late Woodland as a period of continuous development of Iroquoian culture. They define a preceding Transitional Iroquoian stage as an incipient period separating the Middle Woodland from the Late Woodland, and

## 4. Prehistoric Background

sub-dividing the Late Woodland into Early, Middle, and Late Iroquoian periods. In New York, Ritchie (1980) separates the Late Woodland into halves—the earlier Owasco and later Iroquoian periods. Although continuity and development from one to the other is clear, Ritchie separates the two as different but related cultural traditions, whereas Canadian scholars see more time depth and continuity in the development of Iroquoian cultures.

### 4.3.1 Early Woodland Period

The Early Woodland period is distinguished from the Late Archaic and Transitional periods by the presence of new traits, including the use of clay pottery vessels, tobacco smoking pipes, evidence for burial ceremonialism, and a greater reliance on plants. Like preceding Archaic populations, Early Woodland peoples were predominantly hunter-gatherers, but over time they appear to have experimented with some cultigens and came to rely more heavily on plant foods. Early Woodland ceramic vessels are classified as Vinette 1 wares (Ritchie and MacNeish 1949; Ritchie 1980). Spence, Pihl, and Murphy (1990:137) suggest that large, heavy Early Woodland vessels were used in southern Ontario for a narrow range of functions as compared to Middle and Late Woodland vessels. The later vessels were lighter, better fired, easier to transport and more integrated into subsistence and settlement practices.

Adena points are diagnostic of a spatially and temporally wide-ranging Early Woodland culture that flourished in the Ohio Valley after ca. 2,500 B.P. (Mason 1981). Ritchie (1980) characterizes two types of Adena points from New York. One group consists of large points made with non-local raw material. The other group consists of smaller specimens made of locally available Onondaga chert. The presence of exotic points is often cited as evidence of trade networks and cultural ties between and among a broad range of people and those in the Adena heartland. The presence of Adena points made of local material on the Niagara Frontier may indicate that people relocated from the Ohio Valley to this area (Ritchie 1980:201-202; Mason 1981:209-219). Identifying the movement of people as opposed to the movement of ideas and raw material is a common problem in archaeological interpretation.

The Early Woodland period is represented in the Niagara Frontier by Meadowood Phase materials (Ritchie 1980; Spence, Pihl, and Murphy 1990). Granger (1978:291) characterizes the Meadowood subsistence and settlement pattern on the Niagara Frontier as employing base settlements, extractive settlements, and chert resource and mortuary sites on a seasonal basis. He believes that base settlements were occupied from autumn through winter and into early spring and were specifically located in riverine environments near large, open forests. Several family groups are supposed to have joined to take advantage of seasonal opportunities for hunting and nut gathering. Food processing and storage are reported as major activities for sites of this type. Granger (1978) defined a complementary site type for summer habitations based on information from the Sinking Ponds site, located in the interior of western New York well south of the Peace

#### 4. Prehistoric Background

Bridge. Family groups reportedly dispersed during the summer to camp at the fringes of shallow lakes and wetlands, where conditions for fishing and vegetable resource collection were optimal. Food processing is also a significant site function at this site type.

Granger (1978) has contributed greatly to Meadowood Phase studies; however, his model requires revision. He infers a summer occupation based on the presence of net sinkers, but also on the assumption that fishing and plant collecting are good in marshy areas during the summer. Similarly, he argues that deer and fish would be scarce at these locations in the winter. However, not a single fish bone was recovered from the site to support his position, and all evidence of fish processing is based on assumptions about net sinkers and the possible function of chipped stone tools. The inference of fish processing at the site would be better supported by an analysis of cut and scrape marks on a faunal assemblage consisting of fish bones, combined with a micro-wear analysis of chipped stone tools to show that they had most likely been used for the cutting and scraping of soft meat and bone.

Another interpretation of the Meadowood subsistence and settlement system was put forth by Ritchie and Funk (1973:346), who generally limit their interpretation of Meadowood site types to camp and mortuary sites, forcing consideration of the Riverhaven 2 and Sinking Ponds sites as similar site types. The authors question the interpretation put forth by Granger by suggesting that Meadowood people probably camped near major water bodies during warm weather. This assertion seems much more tenable. They further suggest that settlement patterns were not clearly seasonal due to a lack of 'back-country' or upland sites (Ritchie and Funk 1973:348). Thus, three site types emerge in the Ritchie-Funk model, including mortuary sites, seasonal extractive camps, and base camps.

Ozker (1982:157-166) characterizes Early Woodland adaptations throughout the Great Lakes region as a seasonal round of activities that involved the use of specialized extractive camps. Her interpretations are based on data from a site in the Saginaw Valley of Michigan. Material from the site appears to show evidence of recurrent, overlapping summer and fall occupations. Different frequencies of features and feature contents, chert flaking debris, and mollusk shells are used to infer seasonality. Fire cracked rock (FCR), debitage, and mollusk shells all occur in large quantities at summer activity areas. The paucity of these materials and the presence of nutshell in features resulted in assigning a fall occupation to other activity areas. Given that structural evidence in the form of post-mould and feature-clusters are about the same for both occupation types, and the presence of houses is inferred, the differences in artifact and feature content appear to reflect seasonal variation. Some fall activity areas have high FCR densities, reflecting functional variation in fall subsistence tasks, possibly related to nut processing.

Recently published evidence for early cucurbit use in the Northeast enhances our understanding of Early Woodland subsistence and settlement (Hart and Sidell

## 4. Prehistoric Background

1997; Perkl 1998). The identification of domesticated cucurbit (*Cucurbita pepo*) in association with Meadowood cultural material in north-central Pennsylvania and with earlier cultures elsewhere in the Eastern Woodlands indicates widespread use of this plant through time, including the Early Woodland period, and in the Niagara River corridor. Models of Meadowood subsistence must consider the possibility that domesticated plants requiring seasonal planting and maintenance were part of the typical diet. The logistics of cucurbit husbandry are expected to affect the scheduling of seasonal activities and possibly residential locations. Meadowood people may have exploited riverine habitats extensively during warm months because cucurbits and other food plants grow in the summer and would do well in river-bottom habitats.

Material from the Peace Bridge area may help to clarify our understanding of subsistence and settlement patterns during the Early Woodland period in western New York and the Niagara Frontier. Information from this and other regions is needed to flesh-out an understanding of Early Woodland cultural developments throughout the Eastern Woodlands. Variation in material patterns is expected from different sub-areas across this vast territory, which includes the Great Lakes, mid-Atlantic, and Northeast regions and fringe areas.

### 4.3.2 Middle Woodland Period

The Middle Woodland is a continuation of the adaptation started in the Early Woodland. Pottery manufacture was refined and changed stylistically. Paddle-corded and net-impressed wares with incised decoration and dentate stamping replaced interior cord-marked pottery. Sites of this period have large storage pits of various shapes and sizes, and earthen mounds were constructed at some sites. Mound building may be unique to this and the Early Woodland period, as no mounds have been associated with the Late Woodland, a time when people were buried in cemeteries and ossuaries. Far-reaching trade networks in exotic goods are a hallmark of the Middle Woodland period (Ritchie and Funk 1973).

Middle Woodland material culture and mound building practices in western New York and southern Ontario are thought to be related to Hopewell groups in the Ohio Valley, particularly along the major waterways such as the Allegheny and Niagara River drainages. Burial practices are similar in both areas, but little is known about the day-to-day lives of these people, or connections between these two distant regions. Elsewhere at this time, cultigens began to play an important subsistence role, but little evidence is available for their use in western New York. Reconstructing Middle Woodland subsistence and settlement patterns is an important research goal throughout the Eastern Woodlands.

Ritchie and Funk (1973:117) characterize the Middle Woodland period as corresponding with a major shift in ceramic technology that occurred over a broad geographic area. Vinette 2 ceramic wares are distinctive in their form of manufacture and decoration, and perhaps in their utilitarian function as compared to preceding Early Woodland Vinette 1 wares. Diagnostic attributes of Vinette 2 wares include

#### 4. Prehistoric Background

cord-marked surface treatment, evidence of coiled manufacture techniques and cord-impressed decorations referred to as dentate stamping (Ritchie and MacNeish 1949; Ritchie and Funk 1973; Keenlyside 1978; Spence, Pihl, and Murphy 1990). Vessel interiors tend to be smooth, often with horizontal striations or interior channeling. Sherd breakage patterns can indicate that vessels were coil-manufactured. In western New York, Middle Woodland material is associated with the Point Peninsula complex with date estimates at ca. A.D. 700 +/- 200. Material often conforms to the Kipp Island or Hunters Home cultural complexes as defined for central New York (Ritchie and Funk 1973; Ritchie 1980; Snow 1984). Funk (1993) describes an Early Middle Woodland period extending from 500 B.C. to A.D. 400 and a better understood Late Middle Woodland period extending from A.D. 400 to 900 in the upper Susquehanna Valley. In southern Ontario, the Middle Woodland extends from 400 B.C. to A.D. 600 and is separated from the Late Woodland by a Transitional Woodland/Iroquoian period.

Most well-documented Middle Woodland sites in the Eastern Woodlands are mortuary sites and ceremonial centers consisting of burial mounds and mound groups that are visible additions to the landscape. This is true for many sub-regions, including the Hopewell core area, defined as southern Ohio (Pacheco 1996; Griffin 1996:4-15). Intact, recognizable habitations such as seasonal camps or base camps are elusive in the southern Ontario and western New York archaeological record (Spence, Pihl, and Murphy 1990; Fox 1990). The problem is not a lack of Middle Woodland diagnostic material from sites, but a lack of clarity due to consistent overlap of earlier and later cultures, in terms of both site location and material culture. Single-component Middle Woodland sites are uncommon, and Middle Woodland pottery, pipes, and points resemble those of earlier and later periods. This pattern suggests the presence of a cultural continuum or of cultural relatedness through this important period of change.

Although Middle Woodland sites are considered rare in western New York, the few well-known local sites of this period occur in settings similar to that of the Peace Bridge project area. Given the apparent intensity of Middle Woodland occupation in the Niagara River corridor and the apparently hospitable nature of the setting, it seems plausible that Middle Woodland deposits could occur in the project area. The material culture is not radically different from that of the Late Woodland, and it could be overlooked or difficult to identify in the artifact assemblage (Spence, Pihl, and Murphy 1990; Fox 1990). This is particularly true for stone tools. Jack's Reef, Levanna, Madison, and notched variants of these types are all found in association with Middle Woodland sites in the region. Similarly, ceramic artifacts may be difficult to clearly attribute to the period.

A Transitional Woodland period in southern Ontario extends from about A.D. 600 to 900 and marks the introduction of tropical cultigens, specifically maize, beginning the long period of development of the Iroquoian culture (Fox 1990; Williamson and MacDonald 1997). Site locations are situated on terraces with favorable

## 4. Prehistoric Background

plant growing conditions and on major streams where fishing is thought to remain an important seasonal resource collection activity

### 4.3.3 Late Woodland Period

Late Woodland settlement patterns in western New York and southern Ontario provide clear evidence of larger and more sedentary populations (see Table 4-3) (Herter 2001:25). By the end of this period, people relied on horticulture as a means of food production and practiced much reduced residential mobility (Ritchie 1980; Smith 1990; Williamson 1990; Williamson and MacDonald 1997). Ceramics become common household items and were discarded in great quantities on sites of the period. According to Ritchie (1980), the Late Woodland period in New York is divided into early and late portions, each with a distinctive set of material culture and settlement attributes. The early Late Woodland period in central New York coincides with the Owasco culture pattern. This culture serves as the model for the period A.D. 900 to 1300 in the Genesee Valley and is applied elsewhere in the region.

During the early Late Woodland period in New York, a three-tier settlement hierarchy is suggested by the presence of village, hamlet, and cabin sites along with other special function sites (see Table 4-3) (Ritchie 1980; Herter 2001:25). Villages served as permanent base camps for the annual cycle of subsistence activities. Activity areas radiate outward from this focal point, becoming less concentrated away from the village. A majority of gardening hamlets and resource acquisition sites were probably located proximate to larger villages. During this period, villages tended to be located near large bodies of water, including major drainages. Many early Late Woodland/Owasco villages occur on elevated land near smaller water sources.

As summarized in Table 4-4, the Early Late Woodland/Owasco tradition of New York corresponds with the Early Iroquoian of southern Ontario (Herter 2001:277). The Owasco culture of New York is analogous to the Glen Meyer and Pickering cultures of Ontario (Snow 1984:255).

**Table 4-3 Summary of Late Woodland Site Types (Herter 2001:25)**

Site Type	Function(s)	Characteristics
Village –Terminal Late Woodland (A.D. 1300-1550)	Main Settlement	<ul style="list-style-type: none"> <li>■ Large in size (5 to 10 acres) (Lennox 1984:226)</li> <li>■ Year-round occupation</li> <li>■ Permanent - 10 to 30 years (Warrick 1990:214)</li> <li>■ 2 or more longhouses</li> <li>■ Often palisaded</li> <li>■ Large, deep middens</li> <li>■ Large, diverse artifact assemblages</li> </ul>

#### 4. Prehistoric Background

**Table 4-3 Summary of Late Woodland Site Types (Herter 2001:25)**

Site Type	Function(s)	Characteristics
Village - Early Late Woodland (A.D. 900-1300)	Main Settlement	<ul style="list-style-type: none"> <li>■ Size - usually less than 2.5 acres (Williamson 1990:306)</li> <li>■ Year-round occupation or possibly semi-permanent</li> <li>■ Periods of abandonment</li> <li>■ Site duration - 50± years</li> <li>■ Rebuilding - superimposed long-houses and palisades</li> <li>■ 2 or more contemporaneous long-houses</li> <li>■ Often palisaded</li> <li>■ Large, deep middens</li> <li>■ Large, diverse artifact assemblages</li> </ul>
Hamlet	Small community affiliated with a nearby village. (Lennox and Hagerty 1995:70)	<ul style="list-style-type: none"> <li>■ Small in size (0.75 to 1 acre)</li> <li>■ Year-round occupation</li> <li>■ 1 to 7 or 8 houses</li> </ul>
Cabin	Small residential sites - occupied by families as field houses for crop tending and harvesting	<ul style="list-style-type: none"> <li>■ Small in size (0.25 to 0.5 acre) (Dodd et al. 1990:Table 10.4)</li> <li>■ Short-term occupation – several months</li> <li>■ Several houses associated with small middens</li> <li>■ Lack of interior house features</li> <li>■ Low artifact densities</li> </ul>
Fishing Station	Fish Procurement - cleaning, drying for transport to main settlement	<ul style="list-style-type: none"> <li>■ Often extensive in size</li> <li>■ Located near productive fish habitats</li> <li>■ Recurrent seasonal occupation, sometimes for hundreds or thousands of years</li> <li>■ Often deeply stratified deposits</li> <li>■ High artifact densities</li> <li>■ Common artifacts – netsinkers, fish bone, pottery</li> </ul>
Lithic Quarry/Workshop	Quarrying, tool production	<ul style="list-style-type: none"> <li>■ Often extensive in size</li> <li>■ Located adjacent to tool stone sources</li> <li>■ Recurrent, seasonal occupation, sometimes for hundreds or thousands of years</li> <li>■ Vast quantities of chert debitage, especially primary flakes and flake cores</li> <li>■ High debitage-to-tool ratio</li> </ul>

#### 4. Prehistoric Background

**Table 4-3 Summary of Late Woodland Site Types (Herter 2001:25)**

Site Type	Function(s)	Characteristics
Hunting Encampment	Game processing - butchering and processing of fat, skin, fur, bone and antler for transport to main settlement	<ul style="list-style-type: none"> <li>■ Small in size (0.25 to 0.5 acre) (Dodd et al. 1990: Table 10.4)</li> <li>■ Located near productive game habitat such as mast-producing forests and swamps</li> <li>■ Short-term, seasonal occupation over a limited number of years</li> <li>■ Low artifact densities</li> <li>■ Common artifacts – lithic tools, animal bone</li> </ul>
Ossuary	Mass and secondary burials	<ul style="list-style-type: none"> <li>■ Several different sizes (after Dodd et al. 1990:353): Multiple interment - 2 to 9 individuals Small ossuaries - 10 to a few dozen Large ossuaries - up to several Hundred</li> </ul>
Cemetery	Grouping of graves - containing one to several individuals each.	<ul style="list-style-type: none"> <li>■ Often large in size, ex. Adams n=383 individuals (Wray et al. 1987:240)</li> <li>■ Appears to be associated mainly with Proto-Contact and Contact villages</li> </ul>

**Table 4-4 Comparison of Late Woodland Cultural History for Portions of New York and Southern Ontario by Various Authors (Herter 2001:277)**

Southern Ontario	Seneca and Cayuga
Dodd et al. (1990) Williamson (1990) Warrick (1990, 1996)	Niemczycki (1984) Wray et al. (1987)
Late Ontario Iroquoian (A.D. 1400-1450)	Late Prehistoric (A.D. 1450-1550)
<ul style="list-style-type: none"> <li>■ Villages substantially larger (2.5 to 12 acres)</li> <li>■ Villages in highly defensible locations</li> <li>■ Massive palisades common</li> <li>■ Longhouse length decreases through 17<sup>th</sup> century</li> </ul>	<ul style="list-style-type: none"> <li>■ Large increase in village size</li> <li>■ Villages typically between 4 to 5 acres</li> <li>■ Often in highly defensible locations and palisaded</li> <li>■ Nucleation of two main villages = beginning of tribalization</li> <li>■ Occupation 10 to 20 years</li> </ul>

#### 4. Prehistoric Background

**Table 4-4 Comparison of Late Woodland Cultural History for Portions of New York and Southern Ontario by Various Authors (Herter 2001:277)**

<b>Middle Ontario Iroquoian (A.D. 1280-1400)</b>	<b>Chance Phase (A.D. 1300-1400)</b>
<ul style="list-style-type: none"> <li>■ Population aggregation</li> <li>■ Population explosion during Middleport phase of Huron-Petun development</li> <li>■ Villages average 4 acres in size</li> <li>■ Occupied 20-30 years</li> <li>■ Year-round occupation</li> <li>■ Longhouse length doubles from E.O.I.</li> <li>■ Longhouse length continues to increase until 15<sup>th</sup> century</li> <li>■ Longhouses highly variable in size</li> </ul>	<ul style="list-style-type: none"> <li>■ Villages between 0.5 to 2 acres</li> <li>■ Villages often in highly defensible locations</li> <li>■ Palisades often present</li> <li>■ Population consolidation begins</li> <li>■ Increasing population levels</li> <li>■ Semi-sedentary communities</li> <li>■ Data scarce in the period between A.D. 1100-1350</li> </ul>
<b>Early Ontario Iroquoian (A.D. 900-1300)</b>	<b>Canandaigua (A.D. 1100-1200)</b>
<ul style="list-style-type: none"> <li>■ Villages small, under &lt;2.5 acres</li> <li>■ Occupied 50± years</li> <li>■ Recurrent occupation</li> <li>■ First longhouse ca. A.D. 900</li> <li>■ Average longhouse length 41 feet</li> <li>■ Steady population growth</li> </ul>	<ul style="list-style-type: none"> <li>■ First appearance of semi-sedentary, horticultural villages (ex. Maxon Derby, Sackett)</li> </ul>
	<b>Carpenter Brook (A.D. 1000-1100)</b>
	<ul style="list-style-type: none"> <li>■ Sites less than 0.2 hectare (&lt;0.5 acre)</li> <li>■ Recurrently occupied</li> </ul>

The Owasco developmental continuum emerged from the preceding Middle Woodland Kipp Island and Hunter's Home phases in New York (Ritchie and Funk 1973:359). The Carpenter Brook phase represents the early Owasco culture pattern. Middle Owasco culture is represented by the Canandaigua phase, marked by the clear association of palisaded villages. These phases correspond with Early Ontario Iroquoian developments in Ontario (see Table 4-4). Castle Creek represents the late Owasco culture pattern in New York. The subsequent Oak Hill and Chance phases are representative of Iroquoian culture as opposed to the preceding Owasco in New York and with Middle Ontario Iroquoian (Ritchie and Funk 1973:362-363). The Garoga phase represents the culmination of prehistoric Iroquoian culture in eastern New York and corresponds temporally with the Late Prehistoric and Late Ontario Iroquoian.

Late Woodland subsistence and settlement pattern models specific to the Niagara Frontier (White 1961, 1963, 1978) portray a period significantly different from that of the preceding Early and Middle Woodland periods. In general, the period witnesses a trend towards the use of semi-permanent habitation sites and a horticultural means of subsistence. A high degree of logistical mobility was maintained throughout the period, with a strong seasonal element to site use and resource exploitation

## 4. Prehistoric Background

(Ritchie and Funk 1973; Ritchie 1980; Mason 1981; Murphy and Ferris 1990; Perrelli 1994). White (1963) suggested that settlement pattern shifts were closely linked to the increased reliance on horticulture and proposed a developmental trajectory for residential bases that changed from recurrently occupied, to semi-sedentary, to semi-permanent through time during the Late Woodland.

Ontario's Late Woodland (see Tables 4-1 and 4-4) is typically subdivided into Iroquoian developmental sub-stages, including Early (A.D. 900 to 1300), Middle (A.D. 1300 to 1400), and Late (A.D. 1400 to 1650) (Williamson 1990; Dodd et al. 1990; Lennox and Fitzgerald 1990; Williamson and MacDonald 1997). Previously used cultural associations (e.g., Glen Meyer and Pickering) have been dropped. Early Iroquoian subsistence and settlement strategies are a continuation of the Transitional Woodland period. Villages and houses tend to be small, with corn supplementing hunting, fishing, and gathering. The Middle Iroquoian period denotes an era when the triad of corn, beans, and squash were fully exploited and made up a large proportion of the diet. At this time cultigens were relied on as staple foods rather than food supplements. The Late Iroquoian period marks a period of subsistence continuity amid socio-political and settlement system change. By the 15<sup>th</sup> century and thereafter, villages and longhouses grew to their culmination in size and density. Confederations of tribes appear to have formed, creating the political climate and tribal groupings encountered by European explorers and missionaries during the Proto-historic period, as outlined below.

Identifying the nature and duration of Late Woodland occupations in the Niagara River corridor will allow for local and regional settlement models to be refined. In time the landform may be increasingly associated with particular seasons of occupation, site functions, and even time periods. Late Woodland occupations of the major drainages in western New York are expected to differ as a reflection of the different subsistence and settlement systems that produced them.

### 4.4 Proto-Historic Period

The Late Iroquoian and Proto-Historic periods (ca. A.D. 1500 to 1700) in western New York and southern Ontario are recognized as a mix of well-studied areas and areas for which there is little information, and spatial and temporal gaps in our knowledge remain. The Niagara Frontier is not well studied and is often ignored in regional syntheses and other publications. The area is in need of further study and interpretation before it can be considered in relation to other parts of the Northeast.

Northern Iroquoians are defined on the basis of language, but also in terms of subsistence, settlement, social organization, material culture, and in contrast to adjacent groups. Ethno-historic information regarding the Iroquois Confederacy forms the basis of this definition. This is because the New York Iroquois "...are among the earliest and most voluminously documented of any Amerindian people" (Foster et al. 1984:125). Ethno-historic sources that deal with the Huron of Ontario and the Five Nations, or Iroquois Confederacy, of New York far outweigh

#### 4. Prehistoric Background

material on other Northern Iroquoian and Algonkian (Algonquian) groups. The existence of groups occupying the Niagara Frontier and their demise at the hands of the Iroquois is recorded, but little is known about the people who lived in the shadow of the great Iroquois Confederacy. These groups include lesser-known Northern Iroquoians such as the Petun, Wyandot, Neutral, Erie, and Wenro (Trigger 1978; Ellis and Ferris 1990).

The origin of historically recognized Northern Iroquoian groups is hotly debated despite decades of ethnological, archaeological, and linguistic research (Snow 1984:241). These groups retain the appearance of "...rather anomalous or intrusive...politically centralized, matrilineally organized horticulturalists in the north-east, surrounded by a 'sea' of less centralized, patrilineal, often non-horticultural Algonkians, speaking a completely unrelated set of languages" (Foster et al. 1984:237).

Northern Iroquoian groups for which there are detailed ethnographic and archaeological studies include various member nations of the Iroquois Confederacy (Morgan 1851; Fenton 1978; Trigger 1978), including the Onondaga (Tuck 1971), Seneca (Niemczycki 1984; Wallace 1972), Cayuga (Niemczycki 1984), and Mohawk (Snow 1995). The Ontario Iroquois Tradition (Wright 1966; Ellis and Ferris 1990) and the Huron also have been studied extensively (Thwaites 1896-1901; Tooker 1964; Heidenreich 1978; Trigger 1978). A description of the Iroquoian cultural system and our understanding of the Proto-historic period in general are based largely on information about these groups (Morgan 1851; Ritchie and Funk 1973:213-225; Ritchie 1980; Funk 1983:348-359; Snow 1984:256; Tuck 1971; see also Griffin 1952; Trigger 1978). This characterization holds true for the late prehistoric and contact-era Five Nations Iroquois, but it may be at odds with material culture and settlement patterns associated with prehistoric/proto-historic Iroquoians on the Niagara frontier.

The Iroquoian settlement pattern at the time of European contact is characterized as semi-permanent or semi-sedentary (Beardsley et al., 1956; Smith 1990:279; White 1963), with settlement patterns tethered to a stable village location for a 10- to 15-year period. Villages were reportedly moved to new locations periodically due to conditions such as exhausted crop land and depleted wood resources (Tuck 1971:3-4). Villages are characterized as large (3 to 4 hectares), palisaded enclosures with multiple elongated, multi-family dwellings, or longhouses. Defensive positions are focal points for Iroquoian village locations. Smaller hamlets, fishing villages, and cabins are reported, as are larger villages and paired villages (Tuck 1971:3, 1978:328; Heidenreich 1978:375-377; Dodd et al. 1990:351).

The longhouse is characterized as a standard proto-historic Iroquoian house type and is closely linked with Iroquoian culture in both historic and prehistoric times. Use of the longhouse-type structure appears to have developed through time. Incremental growth from small oval structures (about 6 by 7 meters [20 by 23 feet]) in the pre-Iroquoian (Owasco or Early Iroquoian) period (ca. A.D. 900) culmi-

#### **4. Prehistoric Background**

nates in the classic longhouse style of the post-A.D. 1300 period. Examples of classic longhouses occur at a number of sites within Ontario, Canada and New York.

Endemic warfare is commonly attributed to proto-historic Iroquoian groups (Fenton 1978:315) as evidenced by palisaded villages, defensive village locations, arrow-riddled corpses, and evidence of cannibalism (Ritchie and Funk 1973:366-367). Iroquoian social organization reportedly involved matrilineal descent and matri-local residence patterns. These practices are difficult to demonstrate archaeologically, and conflicting accounts exist (Thwaites 1896-1901; Morgan 1851; Trigger 1978; Tuck 1971:6).

Proto-historic Iroquoian subsistence was based on the production of three domesticated foods—corns, beans, and squash—supplemented by collecting wild plant and animal foods (Morgan 1851; Parker 1968; Fenton 1978; Funk 1983; Snow 1984; Tuck 1971). Crops were secondary to broad spectrum hunting, fishing, trapping, and gathering in the early or pre-Iroquoian period before ca. A.D. 1300. Iroquoian culture is defined by a reliance on corn horticulture after this time (Snow 1984).

Sexual division of subsistence labor and social organization is described in ethno-historic documents (Thwaites 1896-1901; Morgan 1851; Parker 1968; Fenton 1978:309; Trigger 1978, 1981; Wallace 1972; Waugh 1916). Gender-divided labor is seldom given consideration in the formulation of models or the analysis of material culture. This is surprising given the apparent dichotomy of male and female activities described in the literature (Perrelli 1994).

Variations in Iroquoian subsistence, settlement, technology, and social organization are recognized by many but have only recently been given consideration in models of regional prehistory and interaction (MacDonald and Williamson 1995). Regional variation is acknowledged by Fenton (1978:298). He suggested that the New York Iroquois were more dependent on deer than the Huron of Ontario, who relied more on horticulture and fishing (Heidenreich 1978:378-379).

Different branches of Northern Iroquoian culture have been tentatively identified for the proto-historic period in the Northeast based on similarities and differences in material culture and ways of life. Huron-Petun and Neutral-Erie branches make up a western Iroquoian grouping in contrast with the Five Nations and St. Lawrence Iroquois (Fenton 1978:322-328). Niagara Frontier groups may be more closely related to those in southern Ontario than to eastern groups. This fact has long been observed with respect to ceramic and other material culture attributes (Guthe 1958; White 1961; Wright 1966).

Western New York is a crossroads where considerable overlap of cultures occurred. Northern Iroquoian groups such as the Neutral, Erie, and Wenro occupied

#### **4. Prehistoric Background**

the Niagara Frontier and adjacent areas of Ontario, Canada, and New York (Ellis and Ferris 1990; Parker 1920; Trigger 1978).

The formation of the Five Nations confederacy of the Seneca, Cayuga, Onondaga, Oneida, and Mohawk may have been influenced by European contact; however, the roots of this alliance probably originated in proto-historic patterns of inter-group violence (Tuck 1978:330). These patterns of warfare may have been exacerbated by competition for pelts and trade goods following contact with the Europeans.

In 1638 the Seneca drove out the Wenro, and some 600 survivors sought refuge with the Hurons. The Huron, the Petun, and the Neutral were destroyed by the Five Nations between 1649 and 1651. The Five Nations campaign against the Erie took place in 1654-1656 and resulted in their elimination from the Niagara Frontier (White 1978:409-416). These successful wars gave the Iroquois new hunting territory and great booty in pelts and captives. Iroquois also appear to have carried out a massive attack into Maryland, but were repulsed by the Susquehannock (Jennings 1978:365).

Following the defeat of their neighbors, the Seneca expanded their hunting territory west into Ohio and southern Ontario (Abler and Tooker 1978:505). Thus, by the middle of the 17<sup>th</sup> century, the Iroquois were the dominant group in the Great Lakes region.

# 5

## Historic Background

**[In accordance with Section 304 of the National Historic Preservation Act of 1966 (as amended), this document has been amended to remove site-specific location information about archaeological resources for protective purposes (see 36 CFR 800.11 (c)(1), Protection of Historic Properties; Documentation Standards), prior to its release to the general public.]**

### 5.1 Early History

The first European to visit the Niagara Frontier was Father Joseph de la Roche, a Franciscan missionary who came to the Neutral in 1626. In 1640 Jean de Brebeuf, a Jesuit missionary, and Joseph Chaumonot spent a year at the Neutral village of Onguiara, near the modern town of Lewiston. By 1651, however, the Seneca had driven the Neutral from the area. In 1669 the missionaries Dollier de Casson and Rene de Galinee, accompanied by Renee Robert Cavelier de la Salle, came to the region in an attempt to proselytize the Seneca. La Salle, attended by Father Louis Hennepin and a crew of men, returned to the region in 1678. La Salle had been commissioned to explore and settle the western frontier of New France. He did so at his own expense in exchange for the right to trade in Buffalo furs. As there were no navigable routes around Niagara Falls, LaSalle began the construction of a ship, the *Griffon*, above the falls in the spring of 1679. The ship was built where Cayuga Creek empties into the Niagara River in what would become the city of Niagara Falls. With a crew of 34, the *Griffon* weighed 60 tons and mounted seven small cannons. The *Griffon* was the first ship to sail on the Niagara River, Lake Erie, and the Upper Great Lakes (Unknown Author 1912:13-15; Mingus 2003:14; Smith 1884 Vol. I:23, 35-36).

In 1687 the Marquis de Nonville, then Governor of New France, landed with 2,000 Frenchmen and 5,000 Indians near what is now the city of Rochester in the course of an expedition against the Seneca Indians. Defeated, the Seneca relocated their village further inland, along the Genesee River, making them less vulnerable to water-borne attacks. De Nonville then established a small fort near the mouth of the Niagara River (Fort Niagara). In response, the Iroquois conducted raids against the French and compelled the evacuation of Forts Frontenac and Ni-

## 5. *Historic Background*

agara. The Treaty of Ryswick in 1697 resolved some of the territorial disputes between the French and the English, but the fate of western New York remained undecided. Both powers claimed sovereignty over the lands of the Iroquois (Smith 1884 Vol. I:38-40).

In 1702, during Queen Ann's War, the Iroquois remained largely neutral and acted as a power broker between the French and the English. The French, however, gradually gained a relative dominance on the Niagara Frontier and were able to secure more friendly relations with the Seneca than the English. One of the reasons for this is that the French relationships with the Indians were not only mercantile but also social, including intermarriage. The English, who were interested in agriculture, earned the dislike and jealousy of the Iroquois by obtaining large land grants through questionable negotiations with Indian chiefs. In 1725 the French began rebuilding Fort Niagara at the location of De Nonville's original fortification. They also extended their influence and built their outposts in Detroit, Fort Duquesne (Pittsburgh), Presque Island (Erie, Pennsylvania), along the shores of the Great Lakes, and down the Mississippi. During the first half of the 18<sup>th</sup> century, the Iroquois were at the peak of their power. Geographically, they occupied a strategic central position between the French and the English and skillfully played both powers against each other (Smith 1884 Vol. I:40-43).

During the French and Indian War (1754 to 1763), the Seneca fought with the French against the English. They also supported the Pontiac rebellion, which was suppressed in 1763. By the war's end, however, the French surrendered their dominance on the western frontier to the English. The first armed conflict involving Europeans in what would become Erie County occurred at or near Black Rock in October 1763. A detachment of British soldiers under the command of Major Wilkins was enroute to Detroit. They traveled up the Niagara in boats. As they passed a thicket along the shore in the vicinity of what would become the village of Black Rock, a party of Seneca opened fire. The British landed and counterattacked. As a result, the British lost at least 27 soldiers, including commissioned officers. The Seneca's losses are unknown but were thought to be less severe (Smith 1884 Vol. I:42-47).

In the 1764 treaty that officially ended hostilities between the Seneca and the British, the British were granted a 4-mile-wide strip of land along the eastern shore of the Niagara River from Lake Ontario to Fort Schlosser (at Niagara Falls) as a portage route around the falls. This reservation of land along the Niagara River began a practice that the United States and New York State governments were to follow (Smith 1884 Vol. I:46-47).

The victorious English retaliated economically by reducing the credit extended to Iroquois hunters and giving gifts less frequently, directly impacting Iroquoian prosperity. However, the political retaliation was more severe. Following the Revolutionary War, the Iroquois found themselves hemmed in by a ring of forts and had to cede their interests in lands west of the Allegheny Mountains and in the

## 5. *Historic Background*

Ohio Valley. As the result, an entire Iroquoian sphere of influence was removed from the Confederacy's control. The Iroquois' power to conduct diplomacy and forge alliances was significantly curtailed (Wallace 1978:443).

In the early stages of the American Revolution (1775 to 1783), the Iroquois attempted to maintain neutrality as a means of restoring the old and beneficial system of playing the European powers against each other. In 1777, however, the Seneca sided with the British by participating in an unsuccessful attack on Fort Stanwix and carrying out various frontier raids (Abler and Tooker 1978:506-7).

In 1779, in order to eliminate this threat, George Washington dispatched military expeditions under Generals John Sullivan and James Clinton. The American army dispersed the English and Iroquois force near Newton, New York, and destroyed Indian villages, fields, and gardens at Canadasaga, Canandaigua, Honeoye, and Genesee. Two detachments were sent to destroy Cayuga and Mohawk villages. Another force under Colonel Daniel Broadhead razed Seneca villages along the Allegheny River. Iroquois refugees escaped to Fort Niagara, where they were housed in a refugee camp set up by the British. Following a winter of great privations that cut their population in half, the enraged Iroquois renewed their raids. They devastated the Mohawk valley and pushed the American frontier eastward all the way to Schenectady (Abler and Tooker 1978:507-508).

The 1783 Treaty of Paris that ended the war between Britain and America made no provisions for the Indians; the Iroquois had to make their own treaties with both powers. In 1784 the Six Nations (now including the Tuscarora) met the U.S. Commissioners at Fort Stanwix and had to cede all claims to lands west of New York and Pennsylvania. Other adjustments were made through the treaties of Buffalo Creek in 1788, Canandaigua in 1794, and Big Tree in 1797. The net effect of these treaties was to end Indian ownership of all lands in New York, exempting the lands within the boundaries of ten Indian reservations totaling some 310 square miles (Abler and Tooker 1978:507-511).

The provisions of the aforementioned treaty of Fort Stanwix reserved a 4-mile-wide strip of land along the eastern shore of Niagara River for the U.S. The strip extended from what would become Genesee Street in the city of Buffalo to Lake Ontario. In December 1786, commissioners from the states of New York and Massachusetts and the federal government met to discuss conflicting land claims. As a result, New York reserved a 1-mile-wide strip of land east of the Niagara River. The remaining 3-mile-wide strip was granted to the Iroquois (Smith 1884 Vol. I:55-56 and 59-60).

In 1788 Massachusetts sold all of the land that it owned within the present boundaries of New York to Oliver Phelps and Nathaniel Gorham. Phelps and Gorham were unable to make payments on the land, and Massachusetts soon re-sold it to Robert Morris. Morris sold the easternmost parcels in small tracts. The western lands he sold to a group of Americans who held the land in trust for

## 5. Historic Background

friends of theirs from Holland in a transaction that would be known as the “Holland Purchase.” In 1798 New York State authorized the aliens’ ownership of the land and the American trustees transferred the deed. Though no company was legally formed, the consortium would thereafter be known as the “Holland Company” or the “Holland Land Company” (Smith 1884 Vol. I:60-61, 68, and 75-76).

In 1802 legislation was passed that recognized New York State’s possession of the mile-wide strip. It also granted Native Americans the right to use the ferry at what would become the village of Black Rock. In 1803 and 1804 the “mile-strip” was surveyed. North of Scajaquada Creek, the majority of the strip was divided into farm lots, roughly 64.8 hectares (160 acres) each. Four additional farm lots were also surveyed immediately south of the creek. Below this was a roughly 251-meter- (825-foot-) wide lot that extended from the Niagara River to the New York State Reservation Line, known as the Ferry Lot. The southern boundary of the Ferry Lot was roughly 15 to 31 meters (50 to 100 feet) north of what is now West Ferry Street. A triangular piece of land between the south side of the Ferry Lot and the current location of Hampshire Street was reserved for military purposes. The remaining area between the military reservation and the village of Buffalo was reserved for the village of Black Rock (Barton 1879:161-162; Smith 1884 Vol. II:53; Norton 1879:99-100).

### 5.2 Black Rock: Early Formative Period

#### 5.2.1 The Physical Setting

The area of the footprints of Alternatives 1 and 3 (all options) occupy a total of approximately 9 hectares (approximately 22 acres). At the turn of the 19<sup>th</sup> century, this area corresponded to a relatively flat, densely wooded terrain along the eastern shore of the Niagara River, where the river initiates its course from Lake Erie. Portions of this terrain were swampy, especially along the current route of Niagara Street south of the Project Area. The ground west of modern Hampshire Street and Niagara Street was cleared, presumably through Indian agriculture. In the west, this terrain terminated in an approximately 11- to 14-meter (35- to 45-foot) high bluff. Many steep-sided ravines dissected the bluff. A picturesque stream with a small waterfall was located in the area of modern Albany Street and Niagara Street. Below the bluff was a relatively narrow waterfront composed of sandy beaches, ridges, and probably dunes. Squaw Island, located on the east side of the river just north of the project area, was densely wooded and had abundant game (Norton 1879:101 and 103; Smith 1884 Vol. II:22 and 44; Severance 1912:255). The bluff, Niagara River, and Squaw Island are depicted on an 1840 map (see Figure 5-1).

#### 5.2.2 Black Rock

Prior to 1853 the area under the footprint of Alternatives 1 and 3 was located within the administrative boundaries of the village of Black Rock (see Figure 5-2). The village of Black Rock coalesced around an unusual geologic formation that used to exist approximately 335 meters (1,100 feet) north of the Peace Bridge ramp (just west of the current intersection of Niagara Street and Hampshire

Street). The formation was an irregular triangle of black limestone some 31 meters (100 feet) wide and 91 meters (300 feet) long with a level surface, roughly 1.2 meters (4 feet) above the water level of the Niagara River. The northern margin of this rock protruded into the river, offering shelter from the Niagara's fast current, creating a small natural harbor and an eddy (see Figure 5-3). It was a favorite fishing spot of the Indians, and it was not unusual for settlers to see 40 to 50 Indians fishing at the black rock, as well as playing games and sports in adjacent areas. The relatively calm water created by the rock was also an ideal spot for docking, loading, and unloading vessels. The rock was also used as a slip for a ferry to Canada from as early as the Revolutionary War until its demolition in 1825 during construction of the Erie Canal (Norton 1879:98, 112; Severance 1912:250 and 255). The rock was located below what is now Interstate 190 (USGS 1965).

### **5.2.3 The Ferry**

Probably the earliest permanent European-American inhabitant of Black Rock was a Colonel O'Neil. By 1800 he lived in a hut, which also served as a ferry house, and managed the ferry (Smith 1884 Vol. II:53-54). A contemporary account describes the crossing of the Niagara River by the Black Rock ferry (quoted in Spear 1977:79):

"We were here detained more than an hour, waiting the pleasure of the ferryman... When at length he arrived, we were almost deterred from attempting the trip on the account of the wretched machine in which we were to be transported. It was a crazy flat-bottomed boat with low sides, constructed at first of thin planks and which had began to decay. In this slender vehicle navigated by a drunken Irishman, who commanded an Indian and a black wench, who seemed to be the ablest of the three, we consigned ourselves with our driver, wagon and loading across the most formidable Ferry perhaps in the world...(and)... in nine minutes we reached the opposite shore in safety."

From 1806 to 1812 Major Fredric Miller was the proprietor of the ferry and of a tavern also located at the ferry site. As the State of New York did not exercise jurisdiction over the ferry until 1806, Miller was the first licensed ferryman. He latter served as a Major of Artillery in the War of 1812. At that time, the ferryboat was 9.8 meters (32 feet) long and 2.4 meters (8 feet) wide. It was propelled by two large oars with a third to steer. The ferryboat navigated the Niagara along a figure-eight pattern. On the trip across, the current brought it downstream. In the milder current along the opposite shore it was rowed back upstream where it would repeat the pattern (see Figure 5-3) (Norton 1879:108-109; Severance 1912:257; Smith 1884 Vol. II:54).

### **5.2.4 Early Commerce and Development**

By 1805 Black Rock had the ferry station, a tavern, and a general store. The latter was owned by Porter, Barton, and Company (PB&C). PB&C's primary activity consisted of forwarding goods, principally salt, around Niagara Falls. The com-

## 5. Historic Background

pany had numerous connections, including with the salt industry in Syracuse. The commodities were transported by bateaux (small, flat-bottomed boats), each laden with up to 150 barrels of salt. They were taken from Fort Schlosser, in the modern city of Niagara Falls, to a warehouse at Black Rock. Black Rock quickly became a major salt exchange, attracting traders from as far away as Pittsburgh (Smith 1884 Vol. II:54-55; Norton 1912:94-95). PB&C also supplied the forts along the Niagara River with meat, salt, flower, and liquor (Goldman 1973:13-14).

Because of its advantageous location, Black Rock rapidly developed into a trading hub. By approximately 1811, Nathaniel Sill & Company traded in cider and fish. Peter H. Colt sold whisky, gin, and other commodities. Joseph Web advertised his brewery, likely the first in the county, in Black Rock in the November 26, 1811, issue of the *Gazette* (Smith 1884 Vol. II:51 and 55-56).

From an early date, shipbuilding was an important industry in Black Rock. The *Contractor* was built in Black Rock in the winter of 1802/1803. In 1805 the U.S. government commissioned the building of the *Nancy* in Black Rock to transport “Indian presents.” Among others, the *Catharine* (1808), the schooner *Erie* (1810), the schooner *Experiment* (1813), and several vessels during the War of 1812 also were built at Black Rock. In 1810 Asa Standard organized one of Black Rock’s earliest shipbuilding firms, Standard and Bidwell. During the War of 1812, Admiral Perry’s fleet was to be built in Erie, Pennsylvania. Due to a shortage of skilled shipbuilders, however, the work was transferred to Black Rock (Smith 1884 Vol. II:183-185, 188, and 196).

An intense rivalry developed between the villages of Black Rock and Buffalo, both of which sought to be the U.S. port of entry. Black Rock’s principal advantage was its clear, natural harbor. Buffalo’s future harbor, Buffalo Creek’s inlet, was blocked by a large sandbar. In 1805, however, the federal government declared Buffalo to be the official port of entry. Black Rock had an influential advocate in the person Peter B. Porter. Using political connections, Porter secured a compromise wherein Black Rock was the port of entry from April to December and Buffalo from January to March. Buffalo, however, was made the county seat. In 1808 Porter became the congressman from New York’s Western District, and served on the House Committee on Foreign Relations. In 1810 Porter moved to Black Rock and continued to lead the campaign on Black Rock’s behalf (Goldman 1973:14-15; Mingus 2003:23; Smith 1884 Vol. II:55-56, 113).

By 1812 commerce, brought to Black Rock by the ferry and PB&C, had encouraged the growth of the village. Mr. S. Franklin ran a tavern out of his house on the east side of Niagara Street, just south of Auburn Street. PB&C had recently built a wharf and warehouse on the leeward side of Bird Island. Orange Dean opened a tavern and a grocery store in the building that Nathaniel Sill had lived in (Barton 1879:161-163; Smith 1884:Vol. II:56). Immediately prior to the war of 1812, two other buildings—Clark’s grocery store and boarding house and

## 5. Historic Background

PB&C's store and tavern—also were located directly on the black rock. Southeast of the intersection of the main road to Buffalo and what would become Fort Street stood Lester Brace's barn and a log house. To the north of what would become Fort Street, at the base of the bluff, stood the widow O'Neil's log house. Immediately south of what would become Albany Street, in the bottom of a ravine at the base of the bluff, stood the log house of the widow Sydney. General Porter's house was located at what would become the southwest corner of the intersection of Auburn Street and Niagara Street. With the advent of the War of 1812, commerce in Black Rock ceased. By the end of the war, all of the aforementioned structures had been destroyed (Norton 1879:102; Severance 1912:251-61; Lovejoy, et al. 1803-63). The locations of the aforementioned structures are depicted on Figure 5-4.

### 5.2.5 Early Roads

Legislation calling for a state road from Avon to Buffalo was passed in 1797. The following spring, Joseph Ellicott began work on the section that approached Buffalo. The road followed a Native American trail through Clarence and Williamsville, down present-day Main Street to the mouth of Buffalo Creek. It followed a similar, if not identical, route as U.S. Route 5 today. A branch of this road followed another Native American trail that led to the ferry at Black Rock. It departed Main Street roughly following North Street, passed the location where the Connecticut Street Armory is today, and continued northwest to the ferry. In 1798 Joseph Ellicott improved the road, making it suitable for wagons and digging a road through the bluff down to the ferry. It was known as Guide Board Road because of the "guideboard" at its intersection with Main Street that pointed the way to the ferry. Another Native American trail departed the Main Road near Scajagada Creek and roughly followed what is now Lafayette Avenue to the Niagara River (Brown 1894:27 and 28; Norton 1879:95; Smith 1884 Vol. II:22, 44, 53-54, and 80).

By 1803, under the supervision of General Wilkenson, a road was constructed from the foot of the modern Ferry Street to Fort Schlosser. It soon fell into disuse, however, and was overtaken by vegetation by 1805. Today, it is known as Military Road (Goldman 1973:11-13). The main road from Black Rock to Buffalo was then below (i.e., west of) the bluff. In general, it followed the same path that the Buffalo and Black Rock Railroad and Erie Canal were later to follow. The road also was used to access PB&C's pier and warehouse on Bird Island (Severance 1912:251-255; Smith 1884 Vol. II:44). Niagara Street was surveyed in 1807, cleared in 1809, and made into a road sometime after the War of 1812. Initially, it was muddy and crossed many steep ravines, but it was soon improved to a corduroy road (i.e., paved with logs) (Norton 1879:95; Severance 1912:263 -265; Smith 1884 Vol. II:44).

### 5.2.6 The Erie Canal

The earliest proposal to construct a canal linking the Hudson River to Lake Erie was made by Jesse Hawley on January 14, 1807, in an essay he signed "Hercules."

The only major distinction between his proposal and the canal that was eventually constructed was that New York State, rather than the federal government, oversaw its construction. Soon after, investigations and surveys were conducted and avenues for funding were explored. The War of 1812, however, put an end, at least temporarily, to such work (Smith 1884 Vol. I:306-309).

### **5.2.7 Survey of Black Rock**

In 1805 the farm and village lots within the mile-strip were put up for sale by the Surveyor General. The Reverend John McDonald, Archibald McIntyre, John McLean, and PB&C (composed of Augustus and Peter B. Porter, Benjamin Barton, and Joseph Annin) purchased the four farm lots south of Scajaquada Creek. In 1811 they had the land surveyed into village lots, which came to be called Lower Black Rock to distinguish it from the State Village of Black Rock (see Section 5.1 and Figure 5-1) (Barton 1879:161-162). The State Village of Black Rock was first surveyed in 1807 by Alexander Rea in preparation for the sale of land (Lovejoy et al., 1803:63) (see Figure 5-2).

### **5.3 Black Rock during the War of 1812: Fort Tompkins**

The root causes of the War of 1812 were the seizure of American ships by the British Navy, forcible impressments of American sailors by the British, and rapid expansion of the American frontier (Office of the Chief of Military History n.d.:123). The American campaign against the British in Canada took place on three fronts: the eastern frontier along the Saint Lawrence River, the western front centered on Detroit, and the central front along the Niagara River (Bradley 1932:190-197; 199-200; Cook 1906:1-2). The following narrative is concerned with military events on the Niagara Frontier during the War of 1812.

In 1812 American forces along the Niagara River were under the command of Major General Stephen Van Rensselaer and consisted of 6,500 regular and militia troops (Bradley 1932:209; Cook 1906:5). As war grew near, the lack of fortifications on the American side of the Niagara River became evident. The only fortification for the villages of Buffalo and Black Rock was the blockhouse at the navy yard on Scajaquada Creek. To compensate, an additional six or seven fortifications were hastily constructed along the shore of the Niagara River between Scajaquada Creek and the village of Buffalo. Sailors' Battery, with three "long 32-pounders," was located on the south side of Scajaquada Creek, approximately 1,000 meters (3,300 feet) north of the Peace Bridge (Dorsheimer 1879:186-187). A battery with four 24- and 18-pound guns was located at the former residence of William A. Bird, near the foot of Gull Street. The residence corresponds to the current address of 1114 Niagara Street (roughly 427 meters [1,400 feet] north of Alternatives 1 and 3 [all options]). The earthwork was 1.8 meters (6 feet) tall "in a circular form, and a hundred feet in distance." The guns were located on a platform behind the earthwork. Behind the guns stood barracks that could accommodate two to three companies of soldiers and their officers. The barracks were constructed in a depression, excavated "several feet in depth" (Buffalo Times 1924; Dorsheimer 1879:187; Babcock 1927:21; Lovejoy 1836). Fort Tompkins (dis-

cussed below), with six or seven guns of assorted caliber, overlooked the black rock just southwest of the intersection of Niagara Street and School Street (Babcock 1927:20; Lovejoy 1836). At the bottom of a ravine, near the current site of the Massachusetts Street Pumping Station, was a battery with an 8-inch mortar called “Old Sow” (Dorsheimer 1879:186-187). This gun was very likely located to the west of the current intersection of Seventh Avenue and Busti Avenue. A minor earthwork with a 24-pound gun was located at the northern tip of what would later become the Fort Porter grounds (south of the Peace Bridge) (Dorsheimer 1879:187; Lovejoy 1836). Further south, near I-190 at the latitude of Vermont Street, stood a breastwork (a chest-high, temporary earthwork) that was possibly never armed (Dorsheimer 1879:187; Lovejoy 1836). The locations of the Gull Street battery, Fort Tompkins, the 24-pounder, and the breastwork, as they relate to the 1836 layout of the village of Black Rock are depicted on Figure 5-5.

### **5.3.1 Fort Tompkins**

Fort Tompkins was the largest, most heavily fortified, and most important of Buffalo’s and Black Rock’s defenses in the War of 1812. The fort had numerous titles. Most commonly, it was referred to as Fort Tompkins, in honor of the governor of New York. It was less frequently referred to as Fort Adams in honor of the Army major who oversaw its construction. It also has been referred to as Swift’s Battery, in honor of an Army captain who commanded it (Buffalo and Erie County Historical Society [BECHS] 1903). Canadian author A.G. Bradley (1932:209-210) refers to Buffalo’s primary defense as Fort Rock, probably on the basis of its association with the prominent geological feature.

Fort Tompkins was strategically located on the edge of the original bluff (since cut back), directly above northern margin of the black rock (see Figure 5-6). As noted above, this large limestone outcrop created a natural harbor protected from the swift current of the Niagara River and was well suited for the loading and unloading of ships. This haven had to be protected for American ships providing supplies but, more importantly, denied to British ships that could have carried an invasion force. Furthermore, the fort confronted the British’s Fort Erie on the Canadian side and controlled the outlet from Lake Erie (BECHS 1903; Lovejoy 1836).

An important source of information on Fort Tompkins is a hand-drawn map that had been compiled by a number of contributors between 1803 and 1863 and is currently on file with the BECHS. This map presents the results of (1) a land survey undertaken by the Commissioners of Land Office in 1803; (2) a road and land survey map drawn preparatory to the sale of land in Black Rock by Alexander Rea on orders from Simeon Dewitt, Esq., the Surveyor General in 1807; and (3) recording of additional features drawn by Henry Lovejoy, Surveyor, in 1863 on the basis of information provided by a number of contributors familiar with local conditions (Lovejoy et al. 1803-63). Lovejoy was familiar with the area of Black Rock since 1810 (Severance 1912:251). The Lovejoy et al. map of 1803-1863 provides an insight on the layout of Fort Tompkins (see Figure 5-6).

Although Fort Tompkins was the largest of the local defenses, the term “fort” was often used to describe simple earthworks armed with a few pieces of artillery (Babcock 1927:20-21). The fort’s principal feature was an earthen revetment that contained six or seven guns of various calibers (Dorsheimer 1879:186-187). The revetment is depicted as a segmented crescent composed of three straight segments, each at an obtuse angle to the other (see Figure 5-6). The central segment, approximately 46 meters (150 feet) long, is oriented north to south (i.e., parallel to Niagara River). The remaining segments, each roughly 15 meters (50 feet) long, provided lateral protection. The left (south) segment of the fort was anchored to a ravine that dissected the bluff and contained the road to the ferry. Apart from the revetment, the fort contained two barracks to the east of the battery, further away from the bluff. The first barracks was oriented parallel to Fort Street (i.e., east to west), and the second was parallel to Niagara Street (i.e., north to south) (Lovejoy et al. 1803-63).

### **5.3.2 Fort Tompkins and the Military Events of the War of 1812**

The first shot from the American defenses were fired on August 3, 1812. No damage or reply from the British artillery resulted from the incident. In the fall of 1812 and the following spring, there were numerous instances of exchange of fire from both sides of the river. As the British at that time had larger guns, the Americans suffered the most damage (Dorsheimer 1879:188-190).

Following a brief armistice in the fall of 1812, further action took place on October 9, 1812, when Lieutenant Elliot of the American Navy staged a raid with the intention of capturing the *Adams* and *Caledonia*, two British ships anchored near Fort Erie. The ships were taken with little incident, sailed downriver, and received fire from the British batteries at Fort Erie. Both ships were eventually run aground, and the Americans were able to remove some of the *Adams*’ guns. In retaliation, the British launched an extensive artillery attack on Black Rock on October 13, 1812. During the bombardment, a barrel of “old Pittsburgh whisky” at Fort Tompkins was hit, the western barrack at Fort Tompkins burned, several houses were damaged, and a slave owned by the marines was killed (BECHS 1903; Cook 1906:5; Dorsheimer 1879:188-190; Severance 1912:250 and 259).

On November 28, 1812, American General Smyth ordered an amphibious attack across the river from the navy yard at Scajaquada Creek. The action, under the command of Colonel Winder, had two components. Captain King and Navy Lieutenant Angus and a detachment of Americans attacked British batteries across from Black Rock. The second force under Lieutenant-Colonel Boerstler was detached to destroy a bridge over Frenchman’s Creek. In the course of the confused battle, the Americans failed to destroy the bridge, but they were able to capture some prisoners and either destroy gun carriages or spike some of the guns. The British recovered from the initial attack, however, and took King and the remainder of his men prisoner. Approximately 80 British and 160 Americans were killed in this engagement. General Smyth tried to rally another invasion force but failed

## 5. *Historic Background*

to elicit support from the American militia. With the time Smyth wasted on consultations and false starts, the British were able to repair their batteries and re-mount their guns. The militia invoked their constitutional right of not fighting outside the U.S. and returned to their homes (Bradley 1932:217-219; Dorsheimer 1879:188-191).

In April 1813, 1,700 American troops under the command of Dearborn captured York (Toronto). They destroyed all government and military facilities and also raided and looted private property. From York, Dearborn's army was ferried to Fort George. With the aid of the combined artillery fire from Fort Niagara and American ships, the American force captured Fort George on May 26, 1813. Following the defeats at Stony Creek and Beaver Dams, however, General Dearborn resigned as commander of the Niagara Frontier and was replaced by James Wilkinson (Cook 1906:6-7).

On July 11, 1813, as part of a retaliatory action, approximately 250 British troops under Colonels Bishop and Warren landed north of Scajaquada Creek, downstream from Fort Tompkins. The British captured the navy yard at Scajaquada Creek and set fire to the barracks and blockhouse. At Sailors' Battery they burned the barracks and spiked the guns. The militia was caught off-guard and fled along the beach. The British marched south along the Niagara River bluff and spiked the guns of two smaller batteries (BECHS 1903). As the British approached Fort Tompkins, General Porter escaped through the woods on horseback, riding to Buffalo to rally a counterattack. At that time, Major Adams was in command at Fort Tompkins. Realizing the enemy's superior numbers, he abandoned Fort Tompkins and sent an express dispatch to Buffalo for aid. Captain Cummings, with roughly 100 infantry and dragoons (mounted infantry) quickly responded to Adams' request. Seeing that they were outmatched, however, they returned to Buffalo. While occupying Fort Tompkins, the British burnt the remaining (eastern) barrack, spiked three 12-pounders, and commandeered three field pieces and one 12-pound gun. They also captured substantial amounts of whiskey and provisions (BECHS 1903; Dorsheimer 1879:192-193; Salisbury 1906:367-9).

Once his forces were assembled, General Porter advanced from Buffalo. At or near the site of Fort Tompkins, the opposing forces engaged. On the left flank, Porter deployed Major Adams with 100 militiamen. In the center, Captain Bull and Captain Cummings led a detachment of Buffalo volunteers and a company of 100 American regulars. On the right flank, Seneca Chief Farmers Brother and Captain Hull led approximately 30 Indians and 30 volunteers from the Plains. General Porter led the charge of the militia on the left, while the Indians initiated action on the right. After 15 to 20 minutes of intense fighting, the British began to fall back as the American center pursued. The British lost cohesion and retreated to their boats in disorder (Dorsheimer 1879:192-193; Salisbury 1906:367-9).

The Battle of Fort Tompkins was the first battle in the War of 1812 fought on the American side of the Niagara River. Whereas the British had actively employed

the Indians in the war, this was the first battle in which the Indians fought alongside the Americans. During the course of the war, Seneca chiefs Corn Planter and Farmers Brother were commissioned colonels and Chief Red Jacket was commissioned second lieutenant (Cook 1906:9-10; Dorsheimer 1879:192-193; Salisbury 1906:367-9).

### **5.3.3 Burning of Black Rock and Buffalo**

On December 29, 1813, General Riall, with over 1,000 men, captured Sailors' Battery at Scajaquada Creek. The Americans had over 2,000 men under the command of Brigadier-General Amos Hall, but they were poorly trained and undisciplined. Two attempts to recapture the Battery failed, and the third attempt sputtered in indecision. The British detachment at Sailors' Battery constituted the left wing of the British attack. The British landed its center just north of what would become Ferry Street. A smaller force, on the right, had also landed near Fort Tompkins. The artillery on both sides exchanged fire. In the center, the Americans engaged the enemy at the water's edge and killed or wounded over 160 of the 180 British soldiers. However, the British left wing, composed of an estimated 800 British and 200 Indians, was discovered advancing on foot from Sailor's Battery (Blakeslee 1822:436). The American regulars under Colonel Blakeslee, as well as some Indians and Canadian volunteers, advanced to meet them.

Blakeslee and his men held the field for over an hour. However, the American forces eventually collapsed. With the majority of Americans fleeing in all directions, Blakeslee retreated in order to avoid capture. A small force of regulars made a fighting retreat south along Niagara Street. Lieutenant Seely, with a single horse and mounted cannon, fired upon the British as opportunities arose. A 9-pound gun served by a crew of volunteers was placed at Main Street and fired three shots down Niagara Street before falling off its carriage. American Colonel Chapin attempted to parley with the British under a flag of truce in order to allow the others to escape. He negotiated the preservation of private property for the surrender of the villages. When General Riall discovered that Chapin was not in command, however, he decided their parlay was void and set fire to the villages of Buffalo and Black Rock. Americans losses consisted of 30 killed, 40 wounded, and 67 taken prisoner. Mrs. Lovejoy, the mother of the future surveyor, was tomahawked by Indians in her house (Blakeslee 1822:434-437; Bradley 1932:245-246; Cook 1906:12-13; Dorsheimer 1879:194-199).

### **5.3.4 The Last Engagement at Black Rock**

In the spring of 1814, Americans under General Brown captured Fort Erie and immediately began to strengthen it. They added two bastions and a battery (Douglass's Battery) with two guns to the west side, earthworks on its north and south sides, and about 640 meters (700 yards) of earthworks and abatis along the shoreline (Cook 1906:15; Dorsheimer 1879:201).

## 5. *Historic Background*

British General Drummond soon tried to recapture Fort Erie from the Americans. He made a camp roughly 3.2 km (2 miles) away and began a lengthy siege. On August 1, 1814, Drummond sent a raiding party to Black Rock in an attempt to destroy American supplies intended for the garrison at Fort Erie. The American troops at Black Rock, however, defeated the party and pushed them back to Canada (Dorsheimer 1879:201-207).

During the August 15 attack on Fort Erie, the British forces took one of the bastions and used its guns on the rest of the fort. Whether by orders or by accident, the black powder stored below the occupied bastion was ignited. The resulting explosion claimed 300 to 400 men and abruptly ended the battle. From this battle, the British reported 905 killed and wounded, and the Americans lost 129 (Bradley 1932:258-260; Cook 1906:15).

Drummond received a steady supply of reinforcements and continued to add fortifications to his camp while General Porter rallied militia from Buffalo. Under the cover of a heavy storm on September 17, General Porter carried out a surprise attack against Drummond's fortified camps around Fort Erie. All of the British guns were disabled and their fortifications were heavily damaged. By September 21, Drummond had abandoned the siege and retired to Fort George. Realizing that the war was coming to an end, however, the Americans abandoned the fort only two months later (Bradley 1932:258-260; Cook 1906:15-16; Dorsheimer 1879:201-209).

Following the defeat of Napoleon, Britain was able to send 16,000 veteran troops to Quebec. The arrival of the seasoned enemy troops, the threat of New England's succession if the war continued, and a lack of funds precluded plans for additional invasions of Canada. As the British had no designs on American lands, the war was essentially over. The Treaty of Ghent was signed December 24, 1814, and ratified in Washington on February 18, 1815. Under the treaty, Fort Niagara was returned to the Americans, which left the U.S.-Canadian border essentially unchanged (Bradley 1932:260-267; Cook 1906:5, 12-16).

The War of 1812 left the Niagara Frontier in ruins. In Black Rock all residences, warehouses, the ferry house, taverns, etc., had been destroyed (Smith 1884 Vol. I:175).

### **5.4 1815-1825: Post-War Developments**

Following the war, immigration into the area and commercial development proceeded at accelerated rates. Black Rock's natural harbor and PB&C enabled it to recover at a somewhat faster pace than Buffalo (Goldman 1973:15). Seldon, Thompson and Co., another transshipment business, also was operational in Black Rock during this era. Captain James Rough built a house on the foundation that supported Porter's house before the war (see Figures 5-4 and 5-5). This structure was later referred to as the Robie House. PB&C rebuilt the warehouse and docks below the rapids in 1815 (see Figure 5-4). When wind was not sufficient to move

## 5. Historic Background

the laden vessels up the rapids, teams of oxen and horses were used to pull them; the process was referred to as the “horn breeze” (Barton 1879:164; Smith 1884 Vol. II:75 and 183; Severance 1912:259). PB&C held a virtual monopoly over commerce in the area. As a result, Black Rock was known as the “great salt and commercial exchange.” At this time, westward-bound vessels were laden with dry goods, household products, whiskey, mill machinery, farm implements, naval stores, hardware, medicine, salt, food, and other necessities for frontier life. The returning vessels most often carried furs but often had to carry ballast for want of cargo. From March 1816 to March 1821, Sill, Thompson, and Company (ST&C) owned by Nathaniel Sill, Sheldon Thompson, and James L. Barton, occupied the PB&C warehouse (Smith 1884 Vol. II:183-185 and 192).

Shipbuilding remained an important industry in Black Rock. The sloop *Hanna* (the first steamship on Lake Erie) (1816), the *Walk-in-the-Water* (1818), the *Red Jacket* (the first high-pressure steamship on the Great Lakes) (1820), the *Pioneer* (1825), and the *Peacock* (1828) all were built in Black Rock (Smith 1884 Vol. II:183-187).

Lester Brace managed the ferry during the War of 1812 and was granted ownership thereafter. He then opened a tavern and managed both until 1821. Asa Standard then took control and managed the ferry until 1825, when construction of the Erie Canal made its relocation necessary (Smith 1884 Vol. II:53-55; Norton 1879:108-109).

Slavery was present in Black Rock. In 1820 General Porter and his wife, Mrs. Grayson, brought five young slaves to Black Rock. In July 1820 Jonas Harrison advertised an auction that included a black servant girl. In New York State, however, this institution was already in decline. A law was passed in 1818 declaring a gradual abolishment of slavery. Under this law, slaves imported from other states could not be owned beyond the age of 28 if male and 25 if female. As whole, the antislavery sentiment in the area was strong and escapees frequently received aid (Smith 1884 Vol. II:78-79).

The 1825 census of Black Rock indicated 1,039 inhabitants. The majority of the population was immigrants, with Germans being the dominant group (H.O.P.E. 1979).

### 5.4.1 Harbor Improvements and the Erie Canal

After the War of 1812, the primary interest of the villages of Buffalo and Black Rock was the proposed Grand (later to be named Erie) Canal. In April 1816 the New York State legislature appointed a Canal Commission that included DeWitt Clinton, who served as President, Stephen Van Rensselaer, Joseph Ellicott, Samuel Young, and Myron Holley. They were tasked with providing cost estimates and conducting surveys (Smith 1884 Vol. I:306-309). The first survey of the western section of the proposed canal route, from the Genesee River to the village

## 5. Historic Background

of Buffalo, was made in the summer of 1816. The legislation for construction of the Erie Canal was passed in April 1817 (Smith 1884 Vol. II:77).

The prospect of hosting the western terminus of the Erie Canal regenerated the old rivalry between Buffalo and Black Rock. By 1819 both communities were working hard to secure the terminus. Much of the rivalry was expressed through town meetings, pamphlets, and newspaper articles. Black Rock's first newspaper, the *Black Rock Beacon*, however, did not begin circulating until December 1822. By that time, Buffalo already had two newspapers (Severance 1910:313). As both villages believed their harbors were the key to acquiring the terminus of the canal, harbor improvements became their primary focus.

Buffalo's principal concern was the lack of a viable harbor. The outlet of Buffalo Creek was blocked by a large sandbar that often did not allow for vessels larger than a canoe to pass. The spring floodwaters would often wash the sandbar into the lake, leaving a 1.2- to 1.5- meter- (4- to 5-foot) deep channel, but at other times one could cross the mouth of the creek on foot. Cargo loaded or unloaded in Buffalo had to be transported by scows or lighters. In the spring of 1819, a coalition of Buffalo's advocates, led by Samuel Wilkeson, formed the Buffalo Harbor Company and began to solicit money from the state. At this time Peter Porter was similarly advocating enlargement of the harbor at Black Rock (Goldman 1973:15; Smith 1884 Vol. II:80-81 and 186-187).

In 1818 the first steamboat to navigate Lake Erie was launched from Black Rock. The *Walk-in-the-Water* was built in a shipyard that was located near the foot of West Delevan Avenue. Its construction and launch at Black Rock reinforced that village's claim of a superior harbor (Goldman 1973:15; Severance 1912:250 and 261; USGS 1965). On November 1, 1821, however, the *Walk-in-the-Water* was driven into the shore about 1.6 km (1 mile) south of Buffalo's lighthouse. The New York City-based owners wanted a replacement built at the most suitable harbor. Both Buffalo and Black Rock vied for the shipbuilding contract. The citizens of Black Rock convinced the owners that the mild current in Buffalo Creek would result in an ice jam and delay the planned spring launch. The initial decision was, therefore, to have the ship built at Black Rock. A group of Buffalo's citizens, however, countered with an offer that included a 25 percent discount on the lumber and a financially backed guarantee that ice would not delay the launch. The offer was accepted and construction in Buffalo's harbor began. The *Superior* was successfully launched from Buffalo Creek on April 13, 1822, and was generally thought to be an indication of Buffalo's superior harbor (Barton 1879:167-168; Smith 1884 Vol. II:89-90; Severance 1910:313-314).

The state legislature authorized the construction of harbors at both Buffalo and Black Rock on April 17, 1822. Each was given an allowance, which, among other stipulations, would have to be paid back if the improvements were not suitable or permanent. Buffalo's principal objective was to open Buffalo Creek to ships on Lake Erie. This would be accomplished by clearing a 2.4- meter- (8-foot) deep

## 5. *Historic Background*

channel through the obstructive sand bar and building a pier to prevent its reestablishment. It was agreed that the successful completion of that task would guarantee Buffalo the terminus of the canal. Black Rock's harbor would be made by constructing a pier from Bird Island to Squaw Island with a dam at the lower end (Severance 1910:312). This would bypass the rapids caused by the Onondaga Escarpment and the need for the "horn breeze." To demonstrate the viability of the project, Black Rock's advocates were charged with the construction of an experimental pier through the rapids. The pier was to be 52 meters (170 feet) in length or longer, and constructed of wood cribs filled with stone. The Black Rock Harbor Company, headed by Peter B. Porter, was created to execute the project. If by June of the following year the pier was found to be suitable, the state would refund the cost and oversee its completion (Barton 1879:168-169; Severance 1910:318).

With much effort and innovation, the Buffalo Harbor Company successfully completed its harbor. It consisted of the dredging of Buffalo Creek and the construction of two piers. The dredging was accomplished by excavation as well as by damming and releasing the creek waters. The piers were built of woodpiles, hewn timbers, and cribs filled with brush, stone, and sand (Ball 1879:145; Mingus 2003:33-34; Smith 1884 Vol. II:81-89). Initially, the Black Rock Pier was successful and the decision to terminate the canal in Buffalo was almost overturned. However, in the end, the Canal Commission allocated the canal terminus to Buffalo. The decision was not made because of its suitable harbor but because the higher elevation of the water at Buffalo (above the Onondaga Escarpment) necessitated less excavation along the entire Erie Lake Plain (Smith 1884 Vol. I:309, Vol. II:93).

By July 1820, the middle section of the canal, from Utica to Montezuma, had been completed. The eastern section was then completed by October 1823. In Erie County, the first work began in 1822 with the damming of Tonawanda Creek. The actual excavation of the canal, however, did not begin until August 9, 1823. The groundbreaking ceremony was held at the proposed canal's western terminus, the Commercial Street Bridge in Buffalo. By October 1825, the western section of the canal had been completed. The canal was 12 meters (40 feet) wide at the water level, 8.5 meters (28 feet) wide at the bottom, and 1.2 meters (4 feet) deep. It had 83 stone locks and 13 guard locks. The former were 4.6 meters (15 feet) wide and 27.5 meters (90 feet) long (Pierce 1996:4-8). En route to Buffalo, the section of the canal that passed through Black Rock did so via the Black Rock Channel, which was over 36.5 meters (120 feet) wide (see Figures 5-1 and 5-5). The Black Rock pier eventually succumbed to ice and the river current in May 1826, and the hopes of a permanent harbor there were abandoned (Barton 1879:170; Smith 1884 Vol. I:309-311, Vol. II:93-95).

## 5.5 The Village of Black Rock 1826-1852

### 5.5.1 Advent of Lower Black Rock

During the decade that followed the War of 1812, the economic activities and settlement in the village of Black Rock (i.e., Upper Black Rock) centered around the natural harbor created by the black limestone formation and the ferry based on it. This area was known as Upper Black Rock because it was upstream from (as opposed to north of) Lower Black Rock (see Figure 5-1). The total population of the village was 1,039 in 1825 (Ball 1879:142-143). As noted above, the Erie Canal was completed in October 1825 (Smith 1884 Vol. I:309-311, Vol. II:93-95). During construction of the canal, the black limestone outcrop that was Black Rock's namesake was demolished and the ferry was relocated further north to Squaw Island, at the foot of Ferry Street (Smith 1884 Vol. II:53-55; Norton 1879:108-109). The post-1825 ferry location is depicted on Figure 5-5. With the canal terminus in Buffalo, the prospects for future development in Black Rock were dim. As a part of the downturn, Sill, Thompson, and Company, owned by Nathaniel Sill, Sheldon Thompson, and James L. Barton, moved from Black Rock to Buffalo. Barton was General Porter's longtime business partner. The relocation of this important entrepreneur was an early indication of Black Rock's loss of economic significance. Barton partnered with Samuel Wilkeson, Porter's principal adversary during the rivalry between Buffalo and Black Rock over the port-of-entry issue, and formed with him a transshipment business (Smith 1884 Vol. II:183-185,192; Severance 1912:259). In 1828 General Porter was appointed Secretary of War under the Adams administration. It was his last public role. Following the term, he retired from Black Rock to Niagara Falls and died there in 1844 (Smith Vol. I:204).

Prior to construction of the Erie Canal, the area that would become Lower Black Rock (the area north of Scajaquada Creek) was unsettled. Once the canal was in place, however, a lock at the foot of Austin Street altered the water flow, making milling possible. The first mill was built at the foot of Amherst Street in 1831 by William Porter, Peter Porter's nephew, and Robert MacPherson. In 1836 Samuel W. Howell built a flour mill at the foot of Austin Street. James Thornton and Thomas Chester built a cooperage along the towpath between Amherst Street and Austin Street (Goldman 1973:16-17). These events gradually ushered in the northward migration of commercial enterprises into the Lower Black Rock area. An 1839 map shows, in fact, two villages of Black Rock within the Township of Black Rock (see Figure 5-7). An 1840 map indicated that by this time Lower Black Rock was larger in size than the settlement of Black Rock (see Figure 5-1).

### 5.5.2 The Ferry

As noted above, construction of the Erie Canal made relocation of the ferry necessary. In 1826 the ferry was reestablished on Squaw Island, at the foot of Ferry Street, with Major Donald Frazier and Lester Brace as lessees (see Figure 5-5). As required by an act of legislature, they placed a "horse boat" named the *Bee* on the ferry. The then novel invention consisted of a horizontal, horse-powered wheel, which turned the main shaft with cogs. It was essentially powered by a side wheel, which was in turn powered by horses on a treadmill. The *Bee* had

## 5. Historic Background

been in service for three years when it capsized, drowning the horses and a cargo of sheep. James Haggart became the lessee in 1840 and employed the *Waterloo*, a steam-powered boat. For a few years following 1850, the *Waterloo* was joined by the *Cygnets*. In 1853 the state gave the City of Buffalo full control over all ferries within the city limits (Smith 1884 Vol. II:53-55; Spear 1977:79-80; Norton 1879:108-109).

### 5.5.3 Residential Development

As stated previously, the village lots were surveyed and laid out in 1811. Niagara Street (originally called Schimmelpennick Avenue) was intended to be 3 rods wide. It was declared a public highway on June 19, 1826. Due to the discrepancy of land records (some of which were burned during the war), the street was resurveyed in 1833. By 1846 there were already structures along Niagara Street. On May 19, 1846, the Street Commissioner gave notice to “owners of buildings obstructing streets to remove same before the next meeting.” Compliance with the notice was less than enthusiastic, and similar obstruction notices had to be reiterated a number of times (Bureau of Engineering 1896:464-465).

Front Avenue (originally called Sixth Street, currently Busti Avenue) was laid out as a 6-rod (60 meters) street and was officially opened by the Street Commissioner in April 1834. By September 1851 encroachments necessitated a resolution of the city council to remove obstructions.

The opening of Rhode Island Street was intended to take place in 1839. It was delayed at the initiative of the Secretary of War, who requested a temporary closure of the street between Niagara Street and Broadway. This street was intended to be 6 rods (60 meters) wide but sustained encroachments from building owners. In December 1851 the Council adopted a resolution to compel the owners to remove encroaching building and fences or face prosecution.

In January 1854, following the annexation of Black Rock by Buffalo (discussed below), residents of the section of Rhode Island Street that is within the study area petitioned the city to enclose 5 meters (16.5 feet) on each side of the street, thus reducing the width of the avenue from 30 meters (99 feet) to 20 meters (66 feet). The petition was tabled and the owners ordered to remove encroaching buildings (Bureau of Engineering 1896:601-602).

From the records of the Bureau of Engineering it appears that Seventh Street (Columbus Parkway) and Massachusetts Street were opened in the study area in 1850s (Bureau of Engineering 1896:434, 637-638, 756). It is unlikely that settlement in the study area had been intense during the period of 1826-1853. As late as 1874 there were only approximately 14 structures in the study area (Hopkins 1874:89) (see Figures 5-8a and 5-8b).

**5.5.4 Early Waterworks**

In the spring of 1826 Jubilee Water Works constructed a wood pipeline from the Jubilee Spring, near the current intersection of Delaware Avenue and Auburn Street, to Black Rock. In 1827, it incorporated as the Buffalo and Black Rock Jubilee Water Works Company, and it began supplying Buffalo with water by 1829 (Smith 1884 Vol. II:103; Buffalo Courier Express 1951). The company constructed a stone pump house near the current intersection of Delaware Avenue and Auburn Avenue from which water was supplied by chain pumps. The water flowed by force of gravity through wooden pipes with an inside diameter of 15 cm (6 inches) to a reservoir at the current intersection of Grant Street and Amherst Street, and then to consumers. By the time of Buffalo's incorporation in 1832, there were 25.8 km (16 miles) of wooden pipes within the city's boundaries (Buffalo Courier Express 1951).

**5.5.5 Black Rock Industries**

In 1834 the village's industry consisted of three flour mills, a small grist mill, a distillery, a mill for distilling (with two stones), a furnace and steam engine factory, two oil mills, a large iron furnace for casting, three sawmills, a turning shop, a rope-walk company, a waterworks, a glassworks, a fabric and clothier works, a boat and shipyard with dry-dock, and a brickyard. The Town of Black Rock formed from all of the former Town of Buffalo outside of the City of Buffalo in 1839 (Smith 1884 Vol. I:53-55 and 221).

**5.5.6 The Railroads**

Buffalo's first Railroad, the Buffalo and Black Rock Railroad (B&BRRR), began operating on May 16, 1834. Constructed the previous year at a cost of \$15,000, it was 3 miles long and connected the markets at Buffalo to the ferry at Black Rock. The open-air station at Buffalo was located northwest of the site of Memorial Auditorium, below the I-190. The Black Rock station was across from the store and ferry house at the foot of Ferry Street. The tracks were below the bluff, following the sandy, level shore of Lake Erie (Figures 5-5, 5-9, and 5-10). They were constructed by laying two rows of rough-cut trees in the sand. The trees were then covered with 5-cm- (2-inch) wide planks, creating a platform. The wood rails were laid upon the platform 235 cm (92.5 inches) apart and bolted to the rough-cut trees below. The wooden rails were 10 cm (4 inches) thick and covered with a thin strip of iron. The railroad had a passenger car for fair weather and another for foul weather. The fair-weather car was open and had two compartments. The cars were typically pulled by a single horse, but another was added when the load was heavy. There was no timetable; the train was simply reversed when it reached the end of the line (Dunn 2000:9-10).

The first railroad in the area that utilized locomotives, the Buffalo and Niagara Falls Railroad (B&NFRR), was incorporated on May 3, 1834, by Peter B. Porter and his nephew, William A. Bird. Bird was closely associated with Porter's business and eventually became the superintendent of the railroad. The B&NFRR absorbed the B&BRRR in 1835. By the fall of 1836, locomotives were operating

## 5. Historic Background

regularly on a line from Buffalo to Niagara Falls. The first locomotive, the *Buffalo*, had a two-wheel forward truck and two 1.5-meter- (5-foot) diameter drivers. It was built by the Proprietors of Locks and Canals on the Merrimack River in Lowell, Massachusetts. The next Locomotive, the *Niagara*, had a four-wheel forward truck and two drivers. It was built in 1836 by H.R. Dunham & Company of New York City. The *Tonawanda* was built in 1838 by Mathias Baldwin of Philadelphia, Pennsylvania, and had the same configuration as the *Niagara*. In 1845 the *American*, which had a four-wheel forward truck and four drivers, was built by Hinckley & Drury of Boston, Massachusetts. None of the locomotives had trailing drivers (Dunn 2000:10-11). The B&NFRR followed Niagara Street (depicted as Broadway in 1836) and Sixth Street (later Front avenue, currently Busti Avenue) (see Figures 5-5, 5-9, and 5-10).

There were no railroad developments in the seven years that followed the economic crisis of 1837. The Buffalo and Attica Railroad began operations January 8, 1843. In 1850 it merged with the Tonawanda Company to form the Buffalo and Rochester Railroad Company. In 1852 it opened a line from Buffalo to Batavia. This resulted in a continuous line from New York City to Buffalo. February of the same year the Buffalo and State Line Railroad began operations (Mingus 2003:43-44 and 57-58; Smith 1884 Vol. I:314-320).

In 1853 the B&NFRR became part of the New York Central Railroad (NYCRR) (Dunn 2000:9-10; Stevens 1926:350). At that time, the line that followed Niagara Street was removed as part of improvements for residential development (Foit-Albert Associates 2004:5). A comparison of two historical maps (1848 and 1853) suggests that a series of modifications had taken place in regard to the route of the rail line below the bluff. First, the route of the former B&BRRR was extended northward from the former terminus at Ferry Street. Second, south of Vermont Street the rail line was moved from the east to the west side of the Erie Canal. Third, the B&BRRR north of Vermont Street was moved further inland (see Figures 5-10 and 5-11). Lastly, as stated previously, the B&BRRR was a horse-driven rail line operating on wooden tracks. It is very likely that at this time the wooden line was replaced with steel rails. Installation of the steel rail line would have required removal of sections of the bluff, resulting in severe impacts on Fort Tompkins (see Section 8.3.2).

### 5.5.7 Erie Canal: Later Developments

The history of the Erie Canal as it pertains to Alternatives 1 and 3 is documented in *Stage 1A Cultural Resource Investigation for the Peace Bridge Plaza and Connecting Roadway System, Design Phases I-IV, PIN 5753.58 City of Buffalo, Erie County, New York* (Pierce 1996). A brief Summary is presented below.

With the canal in place, Buffalo's population and manufacturing base grew rapidly. To accommodate the large volume of traffic, plans to enlarge the canal were drafted by 1836. The improved canal was to be 21 meters (70 feet) wide at the water level, 17 meters (56 feet) wide at the bottom, and 2 meters (7 feet) deep.

## 5. Historic Background

Due to the size of the undertaking, the improvements were not completed until 1862. The east side of the canal was lined with industrial, commercial, and residential structures. To allow room for the towpath, the structures were typically located 10.6 meters (35 feet) or more from the canal's edge. At this time, a network of canals in the city of Buffalo that connected with the Erie Canal also was constructed.

The canal experienced its first significant competition with the completion of a line from Albany to Buffalo by the Erie Railroad in 1851. As passenger service was faster and more comfortable by rail, the canal all but abandoned passenger service by 1858. The railroads continued to improve their service but could not compete with the canal's low prices for freight delivery. To stay competitive, lobbyists for the canal were able to get the state to lower and finally eliminate the canal tolls by 1882. As a result, very little state money was spent on canal maintenance. This trend of neglect was somewhat reversed in 1895 with localized efforts to deepen the canal to 3 meters (9 feet). If completed, the improvements would allow each boat to carry an additional 300 tons. To accomplish the task, cofferdams were constructed, the water was drained, and the canal floor was either dredged or excavated by hand. The work in Buffalo took place from 1896 to 1898 but was abandoned in favor of a plan to replace the entire canal.

Following completion of the Erie Barge Canal in 1918, which terminated in Tonawanda, New York, the canal in the Buffalo area, was abandoned. Portions of the canal were filled in, while other portions are exposed and can be seen today (Pierce 1996).

### 5.5.8 Cholera Epidemics

In the summer of 1832, cholera, which was spreading across the country, arrived in the Buffalo area. The Charter of 1832 gave the Board of Health the powers to examine and, if necessary, quarantine all individuals before they arrived in the village. Steamboats were stopped in the harbor and stagecoaches were stopped at the edge of town. The canal boats arriving via the Erie Canal were stopped by a cordon in the village of Black Rock. A temporary hospital was established in the brick McHose House along Niagara Street. In July and August, there were 184 cases of cholera, 80 of which were fatal. As a reaction to the epidemic, the public cemetery, near what is now the intersection of Delaware Avenue and Church Street, was closed in July. As a replacement, 3.6 hectares (9 acres) of farm lot 30, northeast of the city, were purchased. The epidemic, however, was soon brought under control, but it reappeared in 1834 with an equally destructive outcome. In 1849 another cholera outbreak claimed approximately 3,000 victims, leaving 900 dead. The disease made its last major appearance in 1854 (Allen 1879:247; Brown 1894:27 and 28; Mingus 2003:39-40; Smith 1884 Vol. II:114-115). The cholera epidemics of the mid-19<sup>th</sup> century had, as its consequence, a direct, albeit delayed effect on the development of sanitation and water supply in Black Rock (Demeter 1999a:4 and 10-16).

**5.5.9 Speculative Craze and Depression (1830-1845)**

In the early 1830s the U.S. Bank closed and was replaced with state banks. The latter began issuing vast amounts of paper money without proper securities to back it. At the same time, large populations of immigrants were spreading to the fertile lands in the Midwest and Great Lakes regions, which were recently opened for settlement. The influx of goods and money, though not properly valued, were the catalysts for an episode of inflation known as a speculative craze. Real estate prices soared, and many loans were assumed in attempts to profit from the increases. The speculative craze was strongest in Buffalo, but it also was a nation-wide phenomenon. In 1837 prices began to drop, banks began to collapse, and mortgages were foreclosed (Barton 1879:172-173; Smith 1884 Vol. I:211-213).

It was not until 1845 that the nation's economy fully recovered from the depression. At that time the farmers in Erie County, with their mortgages and debts nearly paid off, began to replace their log homes with frame houses. Buffalo felt the effects of the revitalized economy with the great volumes of grain that passed through its elevators. As no railroads then connected to regions to the west, all goods and commerce from the west passed through Buffalo via the Erie Canal (Smith 1884 Vol. I:211-213 and 224).

**5.6 Buffalo's West Side: 1853 to Mid 20<sup>th</sup> Century****5.6.1 Buffalo Annexes Black Rock**

The late 1840s and 1850s were prosperous for Buffalo. While most of the villages of Erie County were stagnant, Buffalo was expanding beyond its city limits. Local agriculture, which had been primarily focused on grain production, expanded to include hay, potatoes, and dairy products for sale in the Buffalo markets. Buffalo was becoming one of the most important railroad hubs in the U.S., with four major rail lines terminating in the city and several rail lines connecting Buffalo to Albany. It became the most important grain and flour trading and transshipment center in the country. The grain elevators could store and elevate 53,000 square meters (1.5 million bushels) per hour. It also offered a host of important cultural activities, a developed banking system, a school system, and a post office system. By 1850 Buffalo's population increased to 42,261. In order to accommodate the growth, a new town charter was drafted in April 1853. It expanded the city limits to include all of the town of Black Rock, including the village of Black Rock (Goldman 1973:26; Mingus 2003:50 and 103).

The people of Black Rock saw the annexation as a positive phenomenon. It was a testimony to the greatness of Buffalo as well as a chance to capitalize on economic opportunities and partake of social and cultural benefits. At this time, the city was divided into 13 wards. Upper Black Rock, situated between Georgia Street in the south and Scajaquada Creek in the north, became Buffalo's Eleventh Ward (Goldman 1973:27-29).

In reality, annexation of the village of Black Rock by Buffalo initially had relatively little immediate effect on the relative isolation of the community. The

## 5. Historic Background

population of Lower Black Rock, for example, was 1,400 persons in 1855 and 1,740 in 1866. In 1865 only eight people commuted from the neighborhood of Black Rock to downtown Buffalo for work. This isolation stemmed to a significant degree from a successful localized economy. For example, in 1875 Black Rock had 19 locally owned and four outside-owned factories, with the total workforce of 500 workers. Relocation of the Pratt and Letchworth Iron Works in 1866 to Scajaquada Creek from its former location in Buffalo brought additional employment to 450 local residents (Goldman 1973:29-32).

### 5.6.2 Ethnic Composition of the Neighborhood

Throughout the 19<sup>th</sup> century, the immigrant presence in the area was strong. In 1855 only 26% of local population was native-born Americans. Forty two percent of the population was German immigrants, followed by the Irish (11%), French (9%), Canadian (4%), and English (8%). As late as 1905, only 56% of the population of Lower Black Rock was born in the U.S. The leading immigrants continued to be the Germans (21%), followed by the Irish (6%), Canadians (10.5%), English (4.5%), Polish (1%), and Hungarians (0.5%) (Goldman 1973:31). The 1890s saw a significant influx of Italians into the project area. Italians settled in large numbers along Front Avenue (now Busti Avenue), Seventh Street (now Columbus Parkway), Rhode Island Street, and Niagara Street (Foit-Albert Associates 2004:15).

In the late 19<sup>th</sup> century, many of the Italians living along the waterfront of lower west side were from Vall D'Olmo, Sicily. The Sicilian household typically included an extended family and spanned three generations. To accommodate the large family unit, they frequently occupied wood-frame, two-family houses with a small, freestanding dwelling in the rear of the lot (Goldman 1983:180).

### 5.6.3 Underground Utilities

As stated previously, it is unlikely that settlement in the study area had been intense between 1826 and 1853. As late as 1874 there were only approximately 14 structures within the footprint of both alternatives (see Figures 5-8a and 5-8b). Due to the relatively low density of residences, only one public utility project was undertaken during this period. This was the Jubilee Water Works (discussed above) that in 1826 utilized a wooden pipeline to bring water through force of gravity from the Jubilee Spring, near the current intersection of Delaware Avenue and Auburn Street, to Black Rock (Smith 1884 Vol. 2:103; Buffalo Courier Express 1951). No public sewer system existed during this period.

While historical and archaeological information is lacking, it is possible that prior to installation of public sewers the residents of Black Rock utilized pre-sewer water closets (WC) (see Figure 5-12). Plans for mid-1850s houses frequently showed WCs as a part of the house design. House wastes were discharged into unmortared, underground cesspools. This self-contained system had a major shortcoming in the form of overflow and seepage contamination. A later alternative to the closed system was a distributory system of waste evacuation. The in-

## 5. Historic Background

house water closet would be connected by underground sewer pipe to an outside settling basin and a flush tank. This in turn was connected by 4-inch branch pipes to a parallel network of 2-inch absorption tiles. This network of tiles could be 10 meters (30 feet) wide and was well suited for small town lots. Existence of such a system in the 19<sup>th</sup> century is known only from documentary sources; it has never been demonstrated archaeologically (Demeter 1999a:9-10, 12, and 14-15).

The cholera pandemic of the mid-19<sup>th</sup> century also affected the Buffalo area, including Black Rock, by repeated appearance of the disease (see Section 5.5.8). By the mid-19<sup>th</sup> century, the connection between cholera and sanitation was well recognized. Consequently, municipalities initiated improvements to the public water supply and sewage systems. Construction of the public sewer system in the city of Buffalo proper began between 1847 and 1854, and more than 47 km (29 miles) of sewer were built during that period. By 1866 sewers had been installed along almost every street within the original city limits. However, outhouses were still used by many households as late as the 1880s (Demeter 1999a:4-5).

Installation of sewers in the study area took place in the 1870s and 1880s. As an example, an 1874 deed for the property of 788 Seventh Street (now Columbus Parkway) included the right to construct a sewer through the neighboring lot; that line would empty into the lateral sewer built by the city along Sixth Street (now Busti Avenue) (Demeter 1999a:9). Whereas an 1874 map indicates approximately 14 structures within the study area (see Figures 5-8a and 5-8b), an 1894 map shows approximately 91 residences and industrial buildings in the same area (see Figures 5-13a and 5-13b). This evidence indicates that installation of the sewer system in the study area preceded intensive local construction. In all probability, this public project was intended to intensify urbanization and stimulate residential and industrial development. This consideration also applies to the underground water delivery system. Water mains were laid along streets in the study area during the 1870s through 1890s.

**Table 5-1 Dates of Installation of Sewer and Water Service for Various Streets (Bureau of Engineering 1912; Demeter 1999a)**

Street	Sewer	Water
Sixth Street (Front Street, now Busti Avenue)	1872-1874	1896
Seventh Street (Columbus Parkway)	1881-1910	1866-1884
Niagara Street	1876-1905	1871-1900
Prospect Avenue	1871-1905	1872
Vermont Street	1873-1886	1874
Rhode Island Street	1876	1881
Massachusetts Street	1870-1886	1872-1905
Hampshire Street	1882	1885
School Street	1897	1908

**5.6.4 Late and Modern Waterworks**

The Buffalo City Water Works Company was organized on March 15, 1849. A year later the City purchased a fifth of the stock. Water was acquired from an intake in the Niagara River through a 91-meter (300-foot) tunnel below the Erie Canal and Black Rock Harbor. A pumping station northwest of the foot of Massachusetts Street (the site of today's Massachusetts Street Pumping Station) then forced the water to a reservoir at Lot 145 (the current site of the Connecticut Street Armory). From there, water was distributed to the city through subsurface pipes. Construction of the pumping station began in September 1850, and water service began on January 2, 1852 (Smith 1884 Vol. 2:523-525; Buffalo Currier Express 1938). Unfortunately, the water at the site of the intake was contaminated with the city's sewage, which caused a high mortality rate from typhoid for the following 61 years (Buffalo Currier Express 1951). The pumping station, water intake, and reservoir are depicted on historic maps dated to 1872, 1874, 1880, and 1894 (see Figures 5-8a, 5-13a, 5-14, and 5-15). A circa 1897 view of the pumping station is presented on Figure 5-16.

After the pumping station and reservoir had been completed, an auxiliary pumping system was installed in order to provide water to the portions of the city whose elevations made the gravity-powered delivery system inadequate. The auxiliary pumps, designed by the Holley Manufacturing Company of Lockport, New York, began operating January 9, 1871 (Smith 1884 Vol. 2:523-525; Buffalo Express 1886; Larned 1911:156-157). The pump house was located at the intersection of Massachusetts Street and Busti Avenue (see Figures 5-8b, 5-13a, and 5-17 and Photographs 3 and 4 in Attachment B).

The City purchased the plant from the Buffalo City Water Works Company on August 15, 1868 (Buffalo Currier Express 1951). In 1897 Buffalo installed one of the nation's first high-pressure water delivery systems for fire suppression. The pumping station at Massachusetts Street was rebuilt in 1906, and the Emerald Channel intake was opened in 1913. In order to avoid sewage contamination, the intake was placed at the outlet of Lake Erie, upstream of the original intake. Soon after, efforts to sterilize the water through chlorination also began. The Francis G. Ward Pumping Station (south of the study area) began operating in 1915. By 1926 a filtration plant was also in service (Buffalo Currier Express 1951). In 1938 the Massachusetts Street Pumping Station produced about a third of the city's water, which left the station through two 0.9-meter (36-inch) and two 1.2-meter (48-inch) water mains (Smith 1884 Vol. 2:523-525; Buffalo Currier Express 1938). In 1955 the New York Thruway Authority purchased roughly half of the land occupied by the pumping station in order to build the I-190 thruway. The city, however, retained enough land to build a modern pumping station that would use the same tunnel and intake. The new pumping station began operations in April 1959 (BECHS n.d.[a]).

**5.6.5 Streetcars**

The Buffalo Street Railway Company (BSRWC) formed in 1860 with S.V.R. Watson serving as President and C.W. Miller as Superintendent. Its first lines ran on Main Street from its foot to approximately Utica Street, and on Niagara Street from Main Street to Amherst Street. The latter line traversed the footprints of proposed Alternatives 1 and 3 (see Figure 5-14). The BSRWC's stables were located on the west side of Niagara Street. Soon after, the lines were covering all of the prominent streets in the city. Initially, the cars were 3.7 meters (12 feet) long, had one four-wheeled truck, and were drawn by a single horse; a second horse was often added when traversing even a slight incline (see Figure 5-18). When the load was heavy, male passengers were expected to exit the car and help shoulder the load; typically this occurred only on inclines. While the passengers were protected from the elements, the driver's compartment, with the exception of a roof and a waist-high dash, was open to the elements. Initially, straw was placed on the floors to keep feet warm, but small coal stoves were eventually added to at least some of the cars. Oil lamps were the only sources of light. The 3-meter- (10-foot) long tracks segments were made of cast iron and bolted together. They were laid on the roadbed without stringers (railroad ties) but had tie-rods at short intervals to prevent the tracks from spreading. By 1863 there were 17.7 km (11 miles) of track and 60 passenger cars. The streetcars made suburban living convenient and affordable, increasing suburban property values (Buffalo Evening News 1960a; 1908:163-165).

Electric streetcars began operating on Main Street on December 24, 1890 (see Figure 5-19). Electric streetcars were added to Niagara Street between Main Street and Hertel Avenue by July 1891, and by November 10, 1894, all streetcars were electrically powered. This was the first totally electric streetcar system in the country. The electric cars were longer, had vestibules at either end, and were red. They received power from overhead wires. If during the course of transit the car became temporarily separated from the wire, a crack similar to lightning resulted. The shift from horse-drawn to electric cars made reconstruction of the rail lines necessary. At midnight on November 15-16, 1896, the Adams Power Station at Niagara Falls sent the world's first long-distance transmission of alternating current to the city of Buffalo. The electricity went directly to the BSRWC's powerhouse on Niagara Street. The event was honored with the ringing of bells, blowing of steam whistles, and firing of a cannon (Buffalo Evening News 1960a; 1908:163-165; Wayland 1923:332; Brown and Watson 1981:128-129; Mingus 2003:61 and 108).

In 1902 all of Buffalo's existing streetcar companies merged to form the International Railway Company (see Figure 5-20). By 1908 the company had 587 km (365 miles) of the rails, 1,250 cars, one electrical generating station, and many accessories. By this time, the rails were 140 pounds to the yard, welded together, supported by steel ties, and embedded in concrete. Between 1923 and 1950, the streetcars were gradually replaced by buses, which did not require tracks or unattractive overhead electric lines (Buffalo Evening News 1960a; 1908:163-165).

With formation of the Niagara Frontier Transit System in 1950, all of the International Railway Company's material assets were transferred or sold. Roughly 7,000 steel poles that held the overhead wires for streetcars became the property of the Buffalo Police Department. Some of the poles were used for traffic signals and signs, while others were removed and used for guardrails in the police parking lots. By 1960, plans were underway to remove the remaining poles and sections of overhead wire that were still intact (Buffalo Evening News 1960b).

### **5.6.6 The Civil War and the Fenian Invasion**

At the beginning of the Civil War, local residents responded enthusiastically to President Lincoln's call for volunteers. In 1861 Buffalo organized the 100<sup>th</sup> New York Volunteers. A group headed by former United States President Millard Fillmore raised \$45,000 in support of the families of the volunteers. By the summer of 1862, Buffalo and Erie County supplied 3,406 volunteers for the armies of the Union. However, disillusionment with the war set in, and the number of volunteers dropped significantly. As a result, the federal government instituted the unpopular draft. An alternative system was established, wherein sums of money, called bounties, were given to perspective soldiers to encourage them to enlist. Initially, bounties were provided by wealthy private citizens to those who would enlist in someone's place. Eventually, Erie County raised \$2,000,000 in taxes to defray the costs of bounties, and approximately 2,000 Buffalonians served during the war.

The Civil War was very beneficial to Buffalo's businesses. In 1863, 740,000 square meters (21 million bushels) of wheat was transshipped through Buffalo via the Erie Canal to the East. Records show that just in 2 days (May 10 and 11, 1863), 194 ships (steamships, brigs, barks, and schooners) came to the Port of Buffalo. They carried \$3,500,000 worth of goods in lumber, lard, bacon, grain, and other commodities (Graham 1967:52-54). Black Rock shared in this influx of wealth.

The discharge of Civil War veterans had a direct effect on events in Black Rock immediately after the Union victory. In 1866 an organization of Irishmen called Fenians made Buffalo their rallying point in a political struggle against the British. Their aim was to invade Canada, rally Canadian supporters, and expel the British from Canada. By the end of May, more than 1,000 Fenians, the majority of which were veterans of the Civil War, had amassed in Buffalo. Under the command of General O'Neil, they launched the invasion on the evening of May 31. Embarking from Black Rock, they crossed the Niagara in a flotilla of canal boats pushed by tugs. The U.S. government tried to intercept the force on the river but was unsuccessful. General Grant arrived on June 2 and placed General William F. Barry in command of the region. The same day the Fenians suffered a decisive defeat at Limestone Ridge at the hands of the Canadians. U.S. forces were dispatched to Fort Porter to assist in the suppression of hostilities as additional Fenians poured into Buffalo. General O'Neil ordered the Fenians, including the reinforcements,

## 5. Historic Background

to retreat and reorganize in Buffalo. More than 500 Fenians were subsequently captured by the U.S. while crossing the Niagara River. By June 4 a detachment of U.S. artillery arrived at Fort Porter. The following day the New York militia seized several wagonloads of arms, and orders were issued to arrest all persons associated with the Fenian movement. The prisoners were soon released with orders to return to their homes. General Barry even provided the necessary transportation. As a result of the Fenian invasion, U.S. plans to abandon Fort Porter were tabled and, instead, two companies of regular army were stationed there (Smith 1884 Vol. II:125-126; Spear 1977:17-19).

### 5.6.7 Fort Porter

The history of Fort Porter as it pertains to Alternatives 1 and 3 is documented in *Stage 1A Cultural Resource Investigation for the Peace Bridge Plaza and Connecting Roadway System Design Phases I-IV, PIN 5753.58 City of Buffalo, Erie County, New York* (Pierce 1996). A brief Summary is presented below.

The grounds of Fort Porter, a former U.S. military post, are situated within the area now occupied by the Peace Bridge Plaza and approach. The history of the fort is closely connected to the development of western New York as well as the U.S.'s relationship with Canada.

During the War of 1812, several makeshift fortifications were established along the banks of the Niagara River, including temporary forts. The need for a permanent fortification, however, was demonstrated by the burning of the villages of Buffalo and Black Rock in 1814, as well as by border tensions during Canada's War of the Rebellion in 1838. On September 9, 1841, Congress appropriated \$50,000 to purchase lands for construction of a defensive work in Buffalo. Although all the land was yet to be acquired, planning began the same year. In 1842 and 1844, the New York State Legislature passed acts that ceded to the federal government the roughly 11.5 hectares (28.5 acres) of land that was to contain Fort Porter (see Figures 5-9, 5-10, and 5-11). Under the control of the U.S. Army Engineer Department, construction began in 1843, and the defensive works were completed by 1847. In 1849 it was named Fort Porter in honor of General Peter B. Porter, who had died five years earlier.

In addition to the land ceded by New York, lots 167, 168, and 186 were purchased from private citizens. Lot 167 had been owned by Colonel James McKay, an attorney and the commander of the Buffalo City Guard. He had built a turreted, single-story limestone house, designed to look like Scottish castle, and a stable on the property. Having run out of funds to complete the project, he was happy to sell it to the government. The military used McKay's house as the Commandant's Quarters, referring to it as either the Castle or the Cottage.

The fort's primary feature was a 21-meter (70-foot) by 19-meter (62-foot) redoubt (blockhouse) with embrasured walls. It was surrounded by a parapet, rampart, moat, and glacis (see Figures 5-9, 5-10, 5-11, 5-14, and 5-15). The blockhouse,

## 5. *Historic Background*

which was designed to be bomb proof, was thought to be the largest in the world. It was two-stories tall and incorporated a 6-meter- (20-foot-) square half tower roof upon which were traverse circles for four guns (32-pounders). Its earthen roof was readied for four barbette guns. The second floor was connected to the top of the rampart by a drawbridge. The fort's external battery was prepared for a total of 28 guns (Pierce 1996:5-15). A small, single-story "hot shot" tower stood at the northwest corner of the blockhouse. Collectively, the works were known as the Keep.

While the fort had the capacity for an impressive array of guns, it was never actually armed. In August 1861, however, the Secretary of War ordered Fort Porter to be the regional center for organizing and training volunteer troops for the Civil War. During the Civil War, non-military activities, including prayer meetings and festivals, were held at the fort to raise civilian moral as well as to raise money for the families of soldiers. At that time, it was also known as Camp Morgan in honor of the Governor of New York. As the facilities at the fort were insufficient to handle the volume of troops, the men were initially lodged in tents. Barracks, which were under construction by October 1861, were demolished by 1868. Each barrack was divided into sleeping quarters and mess hall and could accommodate 500 men. The large number of troops exacted a heavy toll on the buildings and grounds. At the request of the U.S. Army Engineers, the service and maintenance of the fort was granted to the U.S. Army in July 1863. A fire destroyed the interior of the Keep on November 25, 1863.

In October 1864 the fort received warning of a planned raid by roughly 100 well-equipped confederate soldiers. Originating in Toronto, it was to attack either Buffalo, Niagara Falls, or Detroit. In defense of Buffalo, the soldiers at the fort were joined by the 74<sup>th</sup> Regiment from the Arsenal, Buffalo's police, and citizens, which were mustered into the National Guard. The raid, however, never took place.

By 1866 the fort had been nearly abandoned, and the barracks were sold to contractors for lumber. In the spring of the same year, however, Buffalo became the rallying point for an army of Irish Civil War Veterans who called themselves Fenians (discussed above). Fears of a Canadian reprisal to the Fenian invasion prompted the government to maintain and garrison the fort. The troops were housed in tents until the winter of 1867, when new buildings were erected. These included barracks, officers' quarters, and a hospital. A cemetery also was established at the northern end of the property. At this time the Keep was still in a state of disrepair from the 1863 fire.

In 1879 General W.T. Sherman, the Secretary of War, was advocating abandonment of the fort. This desire was shared by the Church Home and several of Buffalo's wealthy citizens, who felt that the area was prime real estate and the fort was hampering its development. In anticipation of the abandonment of the fort, Frank Perew had constructed a large residence on the northeast corner of Vermont

## 5. Historic Background

Street and Busti Avenue (then Sixth Street). The 1884 report of Lt. Gen. Philip Sheridan, however, stated that the land was both monetarily and militarily valuable, and if the military were to give it up it would be costly to reacquire should the need arise. He therefore recommended that the fort be maintained and rebuilt.

With the approval of the Secretary of War, the Park Commissioners constructed a drive and walk along the bluff that same year. As a result, 50 meters (165 feet) of the north walls and 20 meters (65 feet) of the west walls of the Keep, the hot shot tower, and the bases for eight barbette guns were removed, the exterior parapet was partially leveled, and the moat was partially filled in (see Figure 5-13b). In 1887 the bakery, a shed, and a stable were razed to make way for the proposed Sheridan Terrace, and new stables and sheds were constructed at the base of the bluff. To accommodate the new buildings, the remainder of the Keep's glacis and revetment were leveled.

Demolition of old structures and new construction took place between May 1887 and February 1888. By this time the blockhouse was the only portion of the original fort still in existence. In 1888 the ruins were dynamited to make way for the construction of new buildings (see Figure 5-21). The new construction consisted of a bakery, subsistence storehouse, guardhouse, magazine, quartermaster building, hospital, offices, barracks, and three 2-story officer's quarters. Many details of the construction and landscaping are preserved in the 1888 building specifications. Cellars were 1.5 meters (5 feet) below grade and had 45-cm- (18-inch-) thick stone walls. Privies were also lined with stone. All drains and the sewer emptied into the Erie Canal. There was a large amount of near-surface grading and augmentation of drainage during the renovations.

From 1888 to 1891, Fort Porter's garrison consisted of the B and H Companies of the 21<sup>st</sup> Infantry. By 1894 the fort was well maintained and attractive, and the neighborhoods in the vicinity were of good caliber. The 1897 decision to convert the fort to Regimental Headquarters spurred the construction of three officer's quarters, a band barracks, an NCO staff quarters, a 3-story stable, a wagon house, and a coal house with a trestle connected to the New York Central line. At this time, drills were held in Front Park.

Prior to the Spanish-American War, several companies of the 13<sup>th</sup> Regiment, often referred to as the Buffalo Regiment, were stationed at Fort Porter. The soldiers participated in Mexican and Philippine campaigns. Numerous wounded returned to Fort Porter to convalesce after the war. The citizens of Buffalo presented a monument to the soldiers on April 19, 1898, the day before they embarked for the Philippines. The monument was a 36-metric ton (40-ton) boulder from the Niagara Gorge. According to the Iroquois it was imbued with magical powers. The boulder was buried in 1954 during expansion of the Peace Bridge plaza. In 1958, however, it was recovered and placed in the Erie County Historical Society.

## 5. Historic Background

During World War I, soldiers from the 22<sup>nd</sup> Infantry were assigned to Fort Porter for guard duty. From June to August 1917, all of the candidates for the Second Officers Training Camp that were from New York State but not New York City were examined at Fort Porter. Base Hospital No. 23, consisting entirely of local citizens, and three other hospital units mobilized from Fort Porter the same year. Soldiers of the 28<sup>th</sup> U.S. Infantry also were stationed at Fort Porter. A historic tablet honoring the soldiers of the 28<sup>th</sup> U.S. Infantry was placed near the door of the Castle and latter removed to the Peace Bridge Authority Administration Building.

Fort Porter became U.S. Army General Hospital No. 4 on November 10, 1917. Initially, the hospital treated only physical illness and injury but soon expanded to treat mental illness. By October 1919 the hospital had become specialized in the treatment war-related mental illnesses (e.g., shell shock and depression) but continued to treat physical ailments as well. The barracks were modified to house the patients, the Castle became the nurses' quarters, and the Band Barracks was used as the post headquarters. The following years were uneventful until 1925, when the City of Buffalo purchased the grounds in order to construct the Peace Bridge (Pierce 1996).

### 5.6.8 Front Park

The history of Front Park as it pertains to Alternatives 1 and 3 is documented in *Stage 1A Cultural Resource Investigation for the Peace Bridge Plaza and Connecting Roadway System Design Phases I-IV, PIN 5753.58 City of Buffalo, Erie County, New York* (Pierce 1996). Additional information on Front Park is contained in the report by entitled *Historic Resources Survey: Peace Bridge Plaza, EIS* (Foit-Albert Associates 2004). A physical description of the park is presented in the report entitled *Assessment Of Impacts And Mitigation Front Park And Historic Landscape Resources Buffalo, New York, Peace Bridge Expansion Project* (Appendix U of this DEIS). A brief description of the park is presented below.

Buffalo's earliest attempt to develop parkland in the area was in 1862, when the city set aside Blocks 127 and 128, bounded by Connecticut Street, Prospect Avenue, Porter Avenue, and Seventh Street (now Columbus Parkway). In 1868 the Common Council purchased the bluff overlooking the head of Niagara River, near Porter Avenue and Busti Avenue, for the same purpose.

Buffalo's park system was designed by landscape architect Fredric Law Olmsted, Sr., and his firm between 1868 and 1898. Olmsted came to Buffalo at the request of a group of citizens who felt that a park system was an important component of the city's development. The first phase of the development, including Front Park, was carried out from 1868 to 1876 by Olmsted and Calvert Vaux. It was an example of development Olmsted hoped Buffalo would follow. The system's principal feature, the 141.7-hectare (350-acre) area known as The Park, is now known as Delaware Park. It was the only portion of the system that met Olmsted's definition of a park, i.e., an area large enough to escape from the sites and sounds of

## 5. *Historic Background*

the city. It was designed to emphasize pastoral scenery in distinction from artificial features. Front Park, on the other hand, had a music amphitheater, parade ground, playgrounds, and a promenade (see Figure 5-8b). With Lake Erie and Niagara River in the background, it was thought to be an ideal spot for public ceremonies. Olmsted connected the various parks by integrating parkways into the existing streets. The isolated sections of the system, including Front Park, were designed to accommodate the increasingly active pastimes of the era.

Front Park proved to be popular, which pleased Olmsted, who had received a negative response to the idea during his initial visits to Buffalo. The park, in concert with developments such as the Niagara Hotel on Porter Avenue, contributed to the aesthetic nature of the surrounding neighborhood, thereby attracting wealth and sophistication. Front Park eventually expanded to the north, incorporating portions of Fort Porter.

In 1882 the first public building, the 2-story Lake View House with large balconies on both levels, was constructed. It provided park-goers with shelter and refreshments. The Front's park drive, Sheridan Terrace, was widened and extended to the north. It passed through Fort Porter to The Bank, the formal, circular, tree-lined intersection of Busti Avenue and Massachusetts Street (see Figures 5-13a and 5-13b). In 1888 Fort Porter underwent a phase of reconstruction (see above) that complimented Front Park's aesthetics.

To the benefit of the park, an icehouse, asphalt works, and gravel operation were, through litigation, forced off the land between Front Park and Lake Erie by 1890. In developing the newly acquired parkland, the area was filled and the Bird Island Pier lengthened to protect the shore. A stone wall was constructed west of the Erie Canal to retain the fill. Some of the fill was generated from excavation of the Prospect Hill Reservoir, but the area was also used as a free dumping ground. Once the land was prepared, a running track, gymnastics equipment, beach, and boathouse were added. A new bridge, constructed over the Erie Canal from the foot of Porter Avenue, provided access to that section of the park in 1897. The old bridge's superstructure was salvaged and moved to extend Jersey Street over the canal.

In 1897, 11,000 members of the Grand Army of the Republic, Civil War veterans of the Union Army, camped in Front Park as part of a commemorative gathering. The following year, the then dilapidated Lake View House was razed and replaced with a more permanent, wood and granite octagonal bandstand. In 1899 a monument was erected to honor the men of the 13<sup>th</sup> Regiment, U.S. Infantry, who fought in the campaign against Santiago De Cuba in the Spanish American War.

When deciding where in the city to hold the Pan-American Exposition, Front Park was considered a suitable location. However, it was not chosen, at least in part, because the location would not necessitate expansion of the street railways, an outcome desired by the street railroad companies. In 1900 a stone picnic shelter

## 5. Historic Background

with a rustic quality befitting Olmsted's conception of a park was constructed. In 1908 the southwestern portion of the land acquired by the Park Commission in 1890 was transferred to the city of Buffalo. It was to contain the F.G. Ward Pumping Station and Water Filtration Plant. In 1913 four ornamental cannons from Lafayette Square were placed on the Terrace, and four baseball diamonds were constructed. Additional baseball diamonds and four tennis courts were built in 1915. That same year a monument to Oliver Hazard Perry was erected. In 1916 a monument to the 100<sup>th</sup> New York Volunteers, who mustered at Fort Porter in 1862, was erected by surviving members and friends, and a swimming pool was constructed. A mobile, temporary military structure was removed from Porter Avenue to the pool and used as a changing room.

Although the park had lost some of the newly acquired land to the pumping station, the first loss of the original parkland was the result of construction of the Peace Bridge (ca. 1925-1927). As part of the bridge's construction, Moore Drive was laid through the park to provide access. The road reduced the acreage and made the park less appealing as a recreational area. At that time, access to The Bank was maintained with Sheridan Terrace passing below the bridge. In 1951 the Peace Bridge was expanded and Baird Drive was constructed. The loss of land resulting from expansion of the plaza and construction of the access road reduced Front Park to roughly 8 hectares (20 acres). Sheridan Terrace, south of Fort Porter, was closed in 1955. In 1956 the I-190 was extended north, adjacent to and through Front Park. An elevated ramp connecting the southbound I-190 to the Peace Bridge Plaza was constructed in 1971, and an access ramp for northbound traffic was constructed in 1991.

Twentieth century structures within the park include the brick superintendent's house, public restrooms, swing sets, a jungle gym, a wooden picnic ramada, a recreation center, and an ice-skating rink. The stone picnic shelter near Busti Avenue, tennis courts, baseball diamonds, the Perry monument, the Civil War memorial, the Paul Busti monument, and a Peace Bridge monument are still extant. Although it resembles a parking lot, the form of the original terrace is evident. The only portion that retains the original layout is the southern end, which contains a curved entrance road, winding paths, mature trees, and a grassy area that slopes down toward the edge of the former canal (Pierce 1996).

In 1982 the Olmsted park system in Buffalo was listed on the NRHP as a "Olmsted Parks and Parkways Thematic Resources" (see Appendix U of this DEIS 2004).

### 5.6.9 Protestant Episcopal Church Home and Hutchinson Memorial Chapel

The Church Charity Foundation is a branch of the Protestant Episcopal Church. It formed in 1858 under the name of "The Church Charity Foundation of the Protestant Episcopal Church of the City of Buffalo" in response to the suffering of the poor, elderly, infirm, and orphans during the especially foul winter of 1857/1858.

## 5. Historic Background

The first home was located on Washington Street. The needs of the home, however, soon outgrew this building, which was abandoned for a house on Mohawk Street. To meet the increasing needs of the home, the foundation purchased a house and lot on the northeast corner of the intersection of Rhode Island Street and Seventh Street (now Columbus Parkway) in 1866 for \$12,000 (see Figures 5-8b, 5-22, and 5-23). The adjacent lot was soon secured (Church Home Quarterly 1895 Vol. XIV, No. 4:103-105). However, the new building soon became overcrowded. To ameliorate the overcrowding, and believing it was best to separate the elderly from the children, a separate Orphan Ward was built. The ward was designed by architect W. H. Archer of Buffalo, New York (Church Home Quarterly 1895 Vol. XIV, No. 4:105).

The new Orphan Ward faced Busti Avenue, was three stories tall, had a basement of brick and stone, a metal cornice, and was Italianate in style (see Figure 5-24). The building contained separate dormitories for girls and boys, a nursery, a hospital, bathrooms, dining areas, schoolrooms, a kitchen, a large reception area, and private rooms for the sisters, teachers, and staff. The groundbreaking for the Orphan Ward was held April 9, 1894, and the cornerstone was laid in June of that year (Church Home Quarterly 1894 Vol. XIV, No. 1:6-7; No. 2:23). The total cost of the Orphan Ward was \$35,300 (Church Home Quarterly 1894 Vol. XIV, No. 3:58). From 1858 to 1895, the Charity Foundation took care of 104 adult females and eight adult males. From the inception of the Orphan Ward in 1866 to 1895, it cared for 630 children. In March 1895 there were 12 elderly residents and 60 children (Church Home Quarterly 1895 Vol. XIV, No. 4:104-105).

In a special meeting of the Board of Managers on March 14, 1895, Edward Howard Hutchinson pledged to fund the construction of a Chapel in memory of his parents. The funds would be provided if the communities' donations were sufficient to pay off the mortgage to the Orphan Ward by July of that year (Church Home Quarterly 1895 Vol. XIV, No. 4:100). Hutchison's challenge was met, and ground was broken at the site of the New Hutchinson Memorial Chapel in July 1895, and the cornerstone was laid on the 20<sup>th</sup> of that month. The chapel, designed by the same architect as the Orphan Ward, is cruciform in plan and can seat over 250 people. It has a public entrance with a gabled porch that supports a cross. The chapel has a cut stone exterior, slate roof, metal cornices, and a gabled facade (Church Home Quarterly 1895 Vol. XV, No. 1:15).

### 5.6.10 Hydroelectric Power and Long-Distance Transmission

The era of hydroelectric power dawned in 1878 when Jacob Schoellkopf bought the hydraulic canal in Niagara Falls with the intention of generating electricity. That year he formed the Niagara Falls Hydraulic Power and Manufacturing Company and soon after constructed an electrical generation plant in Niagara Falls. Once Schoellkopf's hydroelectric plant was completed, the Cataract Power and Conduit Company, with George Urban, Jr., as president, formed to bring the electricity to Buffalo through overhead cables. The company built a station at the foot of Brace Street and another at what is now 996 Busti Avenue. As the creation of

## 5. Historic Background

alternating current was a recent invention, the 1896 transmission of 1,000 horsepower of electricity from Niagara Falls to the Buffalo Street Railway facilities at 990, 1010, a portion of 1026 Niagara Street, and a portion of 996 Busti Avenue was the first long-distance transmission of alternating current in the world (Dunn 1970:31-32; Wayland 1923:331-335; Buffalo Express 1921).

The Buffalo General Electric Company also became a consumer of electricity generated in Niagara Falls. The company formed on August 1, 1892, through consolidation of the Brush Electric Light Company of Buffalo (formed in 1881) and the Thomson-Houston Light Company (formed in 1886). As steam-powered generating plants were less reliable than hydroelectric plants, the former were abandoned by the Buffalo General Electric Company in 1897 in favor of the electricity delivered by the Cataract Power and Conduit Company. The Buffalo General Electric Company's main office, at the intersection of Washington, Huron, and Genesee streets, was constructed in 1910-1911. Modeled after the Pan-American Exposition's Electric Building, it is a hallmark of Buffalo's skyline. The Buffalo General Electric Company and Cataract Power and Conduit Company merged, under the name of the former, on September 1, 1915. By the 1920s the company was Buffalo's principal supplier of electricity (Dunn 1970:31-32; Wayland 1923:331-335; Buffalo Express 1921). The former Cataract Power and Conduit Company and Buffalo General Electric Company facilities are located at the current addresses of 960 and 996 Busti Avenue and a portion of 990 Niagara Street. (Century Atlas Company 1915; Sanborn Map and Publishing Company Limited 1925:108).

### 5.6.11 Peace Bridge

As early as the 1850s plans to build a bridge between Buffalo, New York, and Fort Erie, Ontario, were thwarted by the enormous expense and the difficulties of international law. Alonzo C. Mather began lobbying for the construction of such a bridge by 1893. He envisioned the bridge as part of an international harbor that would spur the development of both cities. His plans called for a bridge that would accommodate automobiles, railroads, streetcars, and pedestrian traffic. The bridge also was to be outfitted with hydroelectric generators to provide electricity, which would be sold to local customers. His confidence in the eventual construction of the bridge led him to speculatively purchase lands on both sides of the river. Mather received multiple charters from both countries to build the bridge but was thwarted each time. His plan was ultimately blocked by New York Senator Thomas C. Platt, a representative of the existing electric power interests. Platt passed a bill that required an act of Congress prior to the construction of any bridge over international waters. Following this defeat, Mather constructed an apartment building on some of the land he acquired on the U.S. side. The apartments were located on Busti Avenue, near the location of the Peace Bridge Plaza. While Mather's attempts to construct the bridge failed, he is credited with having started the movement that eventually brought the Peace Bridge to fruition (Spear 1977:25-27).

## 5. *Historic Background*

With the successful acquisition of charters from both the U.S. and Canada, the Grand Trunk Railroad completed its International Bridge in 1873. Following an unsuccessful attempt to force the Grand Trunk Railroad to include accommodations for vehicular traffic, the businessmen of Bridgeport (a community that was later to be annexed by Fort Erie) and the Black Rock Manufacturers' Association pushed to have another bridge built. On the U.S. side, this fight was also backed by the West Side Businessman's Association, led by William A. Eckert. The Town of Welland, Ontario's representative in Parliament, W.M. German, led a coalition of businessmen on behalf of Canadian interests. Support for the project grew quickly but was temporarily stalled during World War I. William A. Eckert and W. M. German introduced legislation to create bridge commissions in their respective countries in 1919. In 1925 both countries passed legislation that incorporated the Buffalo and Fort Erie Public Bridge Company. Stocks and bonds were issued to fund the project. Once enough tolls had been collected to pay off the stocks and bonds and to attend to operations and maintenance, the bridge would become the responsibility of the U.S. and Canadian governments. Due to the constraints of available land and prohibitive costs, the initial plans called for a low bridge with a lift bridge over the Government Ship Canal. The U.S. War Department vetoed the plan due to the large number of vessels that used the canal. The problem was soon solved when Fort Porter was abandoned and the land was made available to the Buffalo and Fort Erie Public Bridge Company. The new location made an elevated bridge possible and plans were drawn up. The International Joint Commission approved the plans on August 11, 1925 (Spear 1977:31-35).

With the prospect of the bridge finally at hand and a robust economy fueling the excitement, the bonds for the project, issued June 25, 1925, were oversubscribed four times that day. Groundbreaking ceremonies were held August 17 of that year.

The most difficult phase of construction was establishing the pier bases in the river. The water in that part of the river is roughly 4.5 meters (15 feet) deep and flows at a rate of approximately 3 meters (9 feet) per second. The task was accomplished by floating caissons (water-tight cribs) to the pier locations. Using cables attached to a scow equipped with a steam-powered winch and anchored upstream to a cable that crossed the river, the caissons were held in place. Steel pilings were hammered into the rock to hold the caissons in place and to prevent the rushing water from entering through the base. Divers then sealed the bottoms of the caissons, after which about 2.5 meters (8 feet) of concrete was set, the water pumped out, and the work begun. A spur from the New York Central Railroad line to the storage yards was constructed to expedite the receiving of necessary materials.

The bridge's superstructure was built rapidly and without incident. The original plans called for an electric railway with two tracks, but they were omitted due to the increasing availability of automobiles. Another change was that the low

## 5. *Historic Background*

guardrails, designed to facilitate a view of the Niagara, were replaced with higher rails for safety. The first automobiles crossed the bridge on March 13, 1927, and, amidst much fanfare, the bridge was opened to the public on June 1 of that year (Spear 1977:35- 45).

Initially, the Peace Bridge operations were successful. Following the stock market crash in 1929, however, the falling revenues and the high interests on the bonds almost caused the bridge company to default on the bonds. Following the Buffalo and Fort Erie Public Bridge Company's pleas to the federal government, the U.S. Treasury Department ruled that the bridge was technically the property of the U.S. and Canadian governments and was therefore tax-exempt. This was followed by the creation of the Buffalo and Fort Erie Public Bridge Authority, who issued tax-exempt bonds in order to acquire the assets of the Buffalo and Fort Erie Public Bridge Company. The plan was accepted by the House Foreign Affair Committee on April 10, 1934, and signed by President Roosevelt on May 3, (Spear 1977:63-65).

In 1955 the New York State legislature enacted a proposal that disbanded the Buffalo and Fort Erie Public Bridge Authority and created the Niagara Frontier Port Authority. Under the new organization, Canadian involvement in the operations of the Peace Bridge was minimized. The profits from operation of the Peace Bridge were slated to improve Buffalo's harbor in anticipation of increased traffic resulting from improvements being made to the Saint Lawrence Seaway. New York State's Attorney General and the Canadian Government, however, held that such changes were not possible without the consent of both governments. In 1957 amendments were made to New York State's Act that created a compromise accepted by both governments. Under the new legislation, the governance and profits were to be split equally between the countries and the bridge was to be maintained independent of other interests (Spear 1977:63-65). A current view of the Peace Bridge is presented in Photograph 6 in Attachment B.

### **5.6.12 General Developments of the Late 19<sup>th</sup> and Early 20<sup>th</sup> Centuries**

At the turn of the century, Buffalo was the second largest rail center in the U.S. By 1900 the railroad companies in Buffalo had consolidated to just seven. Together they owned more than 1,416 ha (3,500 acres) within the city and employed more than 20,000 people, dominating the local economy. The railroad companies also owned much of the Great Lakes shipping industry.

Buffalo's growing network of railroads and its prominent position in the shipping industry made the city an increasingly important center of commerce. It also allowed it to handle and process large amounts of grain. The elevators and processing plants, concentrated along Buffalo's Inner Harbor and the Black Rock and Erie Canals, continued to increase in complexity, number, and size. In the years to follow, Buffalo would also become an important center of manufacturing, and the production of automobiles, steel, and aircraft would become the core of Buffalo's economy. By this time, Buffalo's meat packing industry, centered on Wil-

## 5. *Historic Background*

liams Street, had become the fifth largest in the world (Mingus 2003:108; Brown and Watson 1981:306; Leary and Sholes 1997:23-26 and 55; Mingus 2003:123-127).

Although the Pan-American Exposition was organized in 1901, the planning began in 1899. To finance the project, \$4,700,000 were raised by the local, state, and federal governments and through the sale of bonds. The exposition was located between Elmwood Avenue and Delaware Avenue, north of Delaware Park and south of the Belt Line Railway. The event that the exposition is unfortunately most remembered by occurred on September 6, 1901, when President McKinley was shot. He died eight days later and was replaced by Vice President Theodore Roosevelt. As with the majority of the large fairs of that era, the Pan-American Exposition lost money (Mingus 2003:111-120).

The roots of automobile manufacturing in Buffalo go back to 1878 with the formation of George N. Pierce and Company. The company initially produced household goods, followed by bicycles and tricycles. In 1900 the company began making a steam-powered automobile, and in 1901 production of gasoline-powered automobiles began. In 1906 the company built a massive factory along Elmwood Avenue and Great Arrow Avenue (the northwest corner of the former Pan-American Exposition grounds). By 1912 the Company had over 12,000 employees working in 12 buildings scattered across Buffalo. George N. Pierce and Company merged with Studebaker in 1928, but the Depression forced the company to file for bankruptcy in 1933.

The E R Thomas Motor Car Company, owned by Erwin Thomas, produced automobiles in Buffalo from 1902 to 1912. The company had a factory on Niagara Street and was the producer of the famous Thomas Flyer. In 1917 the Tri-Continental (Trico) Corporation was formed to produce windshield wipers. Trico eventually became the world's largest producer of windshield wipers (Leary and Sholes 1997:23; Mingus 2003:127-130).

By the end of the 19<sup>th</sup> century, the steel industry was utilizing the era's increased transportation capacity to relocate its processing plants from the sources of the ore to centers of commerce. In 1901 Lackawanna Steel opened its first plant in Buffalo, and by 1912 it was one of the largest producers of steel in the world, occupying 607 hectares (1,500) acres of land and employing 12,000 people. The company built its own breakwall, harbor, and ship canal. In 1922 Bethlehem Steel acquired the company and refitted the facilities to accommodate the automobile industry. It remained a state-of-the-art facility until the 1970s, when it started a steady decline. The facilities closed in 1983.

Brass- and copper-related industries also were important to Buffalo's economy, employing over 2,000. By 1895 mineralogist Maurice B. Patch, financed by Boston capitalists, had set up a plant in Black Rock. It processed ores into semi-

## 5. *Historic Background*

finished copper ingots and bars (Leary and Sholes 1997:61-62 and 65; Mingus 2003:131-132).

In 1915 Glen Curtis, an established manufacturer of airplanes, leased the former E.R. Thomas Motor Car Company's factory on Niagara Street. As early as 1916 the Curtis Aeroplane and Motor Company was producing warplanes for England. In 1917 Curtis built what was then the world's largest airplane factory on Elmwood Avenue. Following a protracted legal battle over patent issues with Orville and Wilbur Wright, Curtis and the inventors of flight merged to form the Curtis-Wright Corporation. The newly formed corporation soon built a facility in Tonawanda, New York. The corporation was generally successful and at times employed over 43,000 people (Mingus 2003:123, 130-131, and 136-137).

By the mid-20<sup>th</sup> century, Buffalo had reached its peak in terms of population and industrial development. Its economic decline began in the 1950s, when numerous large companies started leaving the area. Among other factors, the end of World War II and subsequent loss of federal funding caused many businesses to scale back or close. Concurrently, many local businesses, especially breweries, were unable to compete with large, national corporations such as Anheuser-Bush and were forced to close their doors. The installation of thruways, designed to revitalize the city, instead had a detrimental effect on various neighborhoods. The Niagara Extension of the NYS Thruway (I-190) was particularly harmful to Black Rock and the West Side. The city sustained a loss of population that was, in part, exacerbated by the federal government's post-war policy of issuing low-interest, long-term loans for the construction of new homes and businesses, as opposed to those already established. Urban renewal projects were implemented in an attempt to stem the decline and exodus but were ultimately ineffective (Mingus 2003:139-40; Brown and Watson 1981:222-223; Buffalo Courier-Express 1980).

Buffalo's economy was further hurt by the opening of the Saint Lawrence Seaway in 1959. Historically, Buffalo's strategic location as a center of commerce was dependant on its position between the Great Lakes and the East Coast, with the Erie Canal serving as the connecting artery. Although the railroads eventually rendered the canal obsolete, they followed the patterns of development that the canal had established, leaving Buffalo as the hub. The Saint Lawrence Seaway, however, allowed the Great Lakes freighters to bypass Buffalo completely. As a result, Buffalo lost the majority of its shipping industry, and the grain industry soon followed (Mingus 2003:139-40).



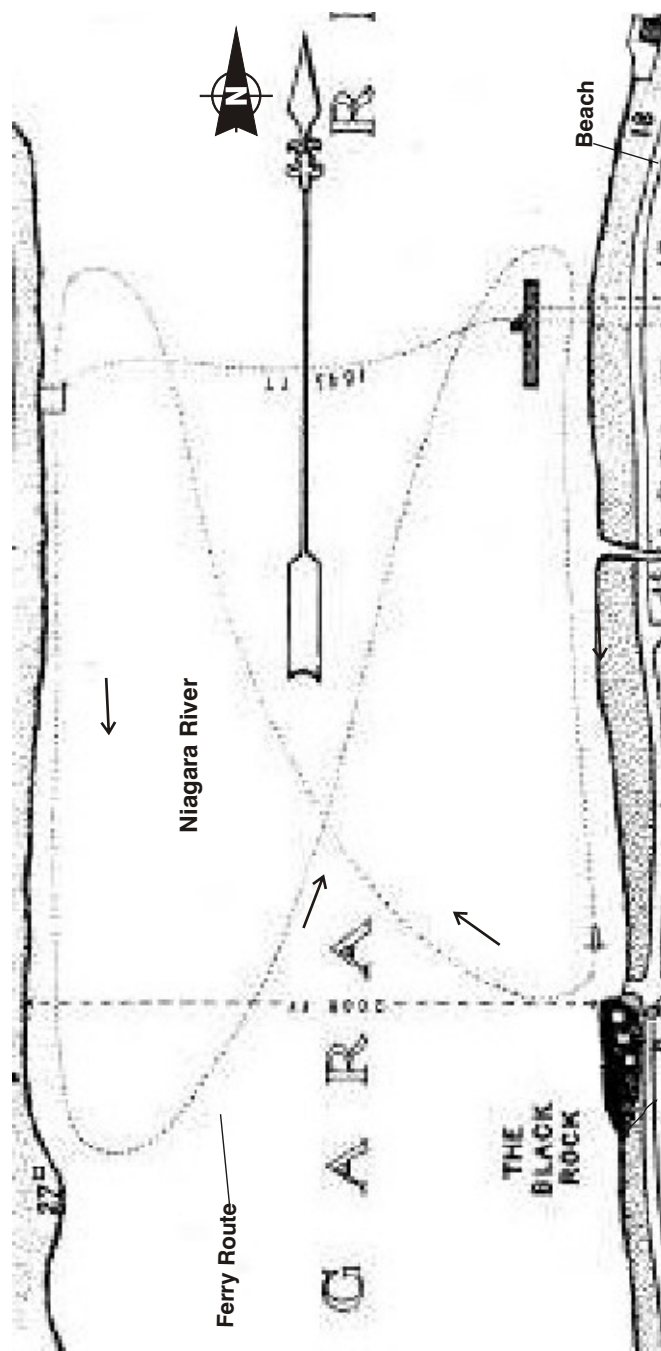
SOURCE: Williams 1840. (Courtesy of the Buffalo and Erie County Historical Society)

Figure 5-1 Village of Black Rock in 1840



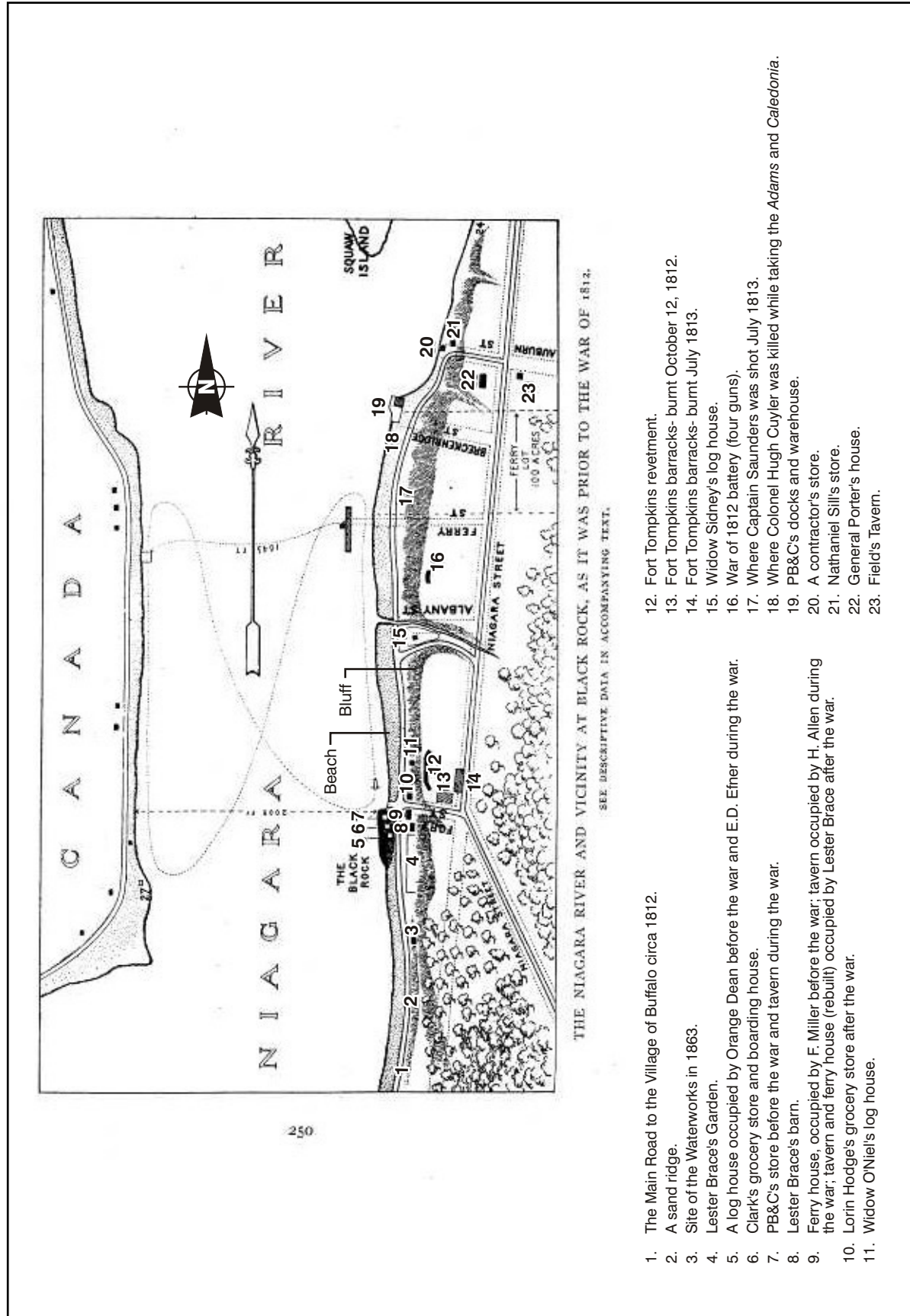
SOURCE: Dewitt 1807. (Courtesy of the Buffalo and Erie County Historical Society)

Figure 5-2 Proposed Layout of the Village of Black Rock in 1807



SOURCE: Severance 1912.

Figure 5-3 The Black Rock, Shores of the Niagara River, and Ferry Route, circa 1812



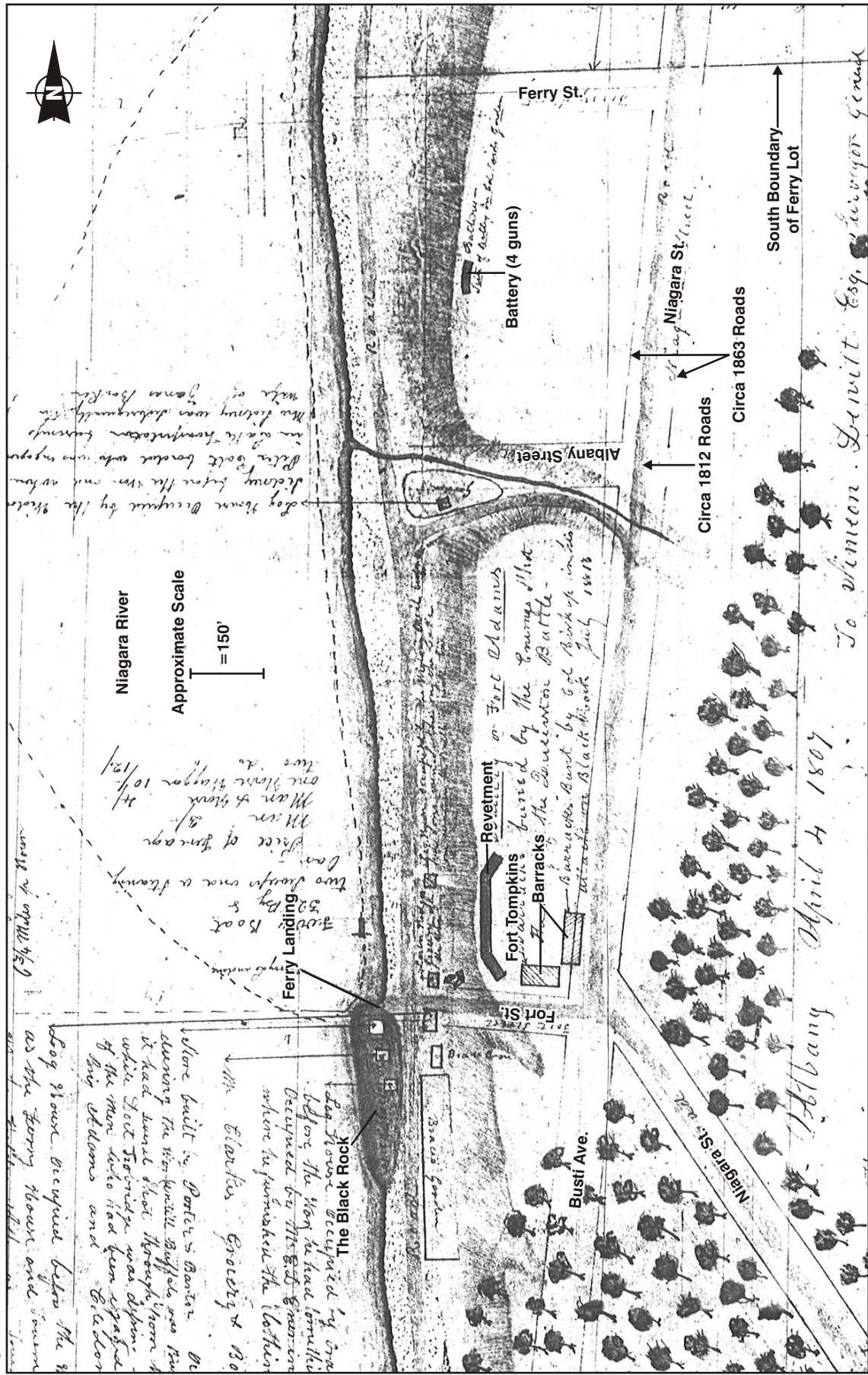
SOURCE: Severance 1912.

Figure 5-4 The Village of Black Rock Before the War of 1812, with Circa 1863 Streets



SOURCE: Lovejoy, 1836. (Courtesy of the Buffalo and Erie County Historical Society)

**Figure 5-5** Location of the War of 1812 Batteries in Relation to the Village of Black Rock (1836)



SOURCE: Lovejoy et al. 1803-1863. (Courtesy of the Buffalo and Erie County Historical Society)

Figure 5-6 Composite Map of Black Rock and Fort Tompkins Circa 1812



SOURCE: Burr 1839. (Courtesy of the Buffalo and Erie County Historical Society)

Figure 5-7 The Villages of Black Rock and Buffalo in 1839

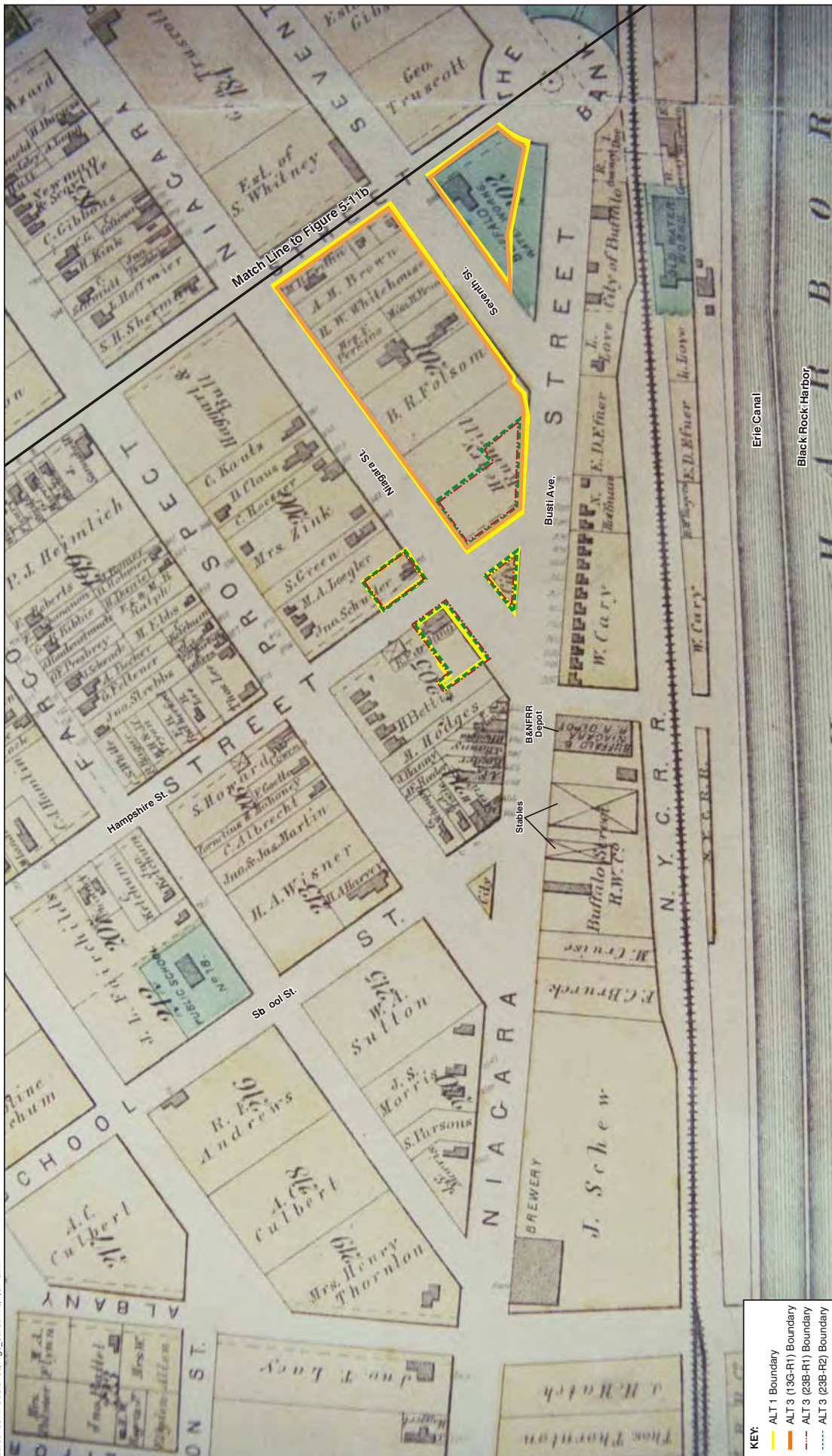
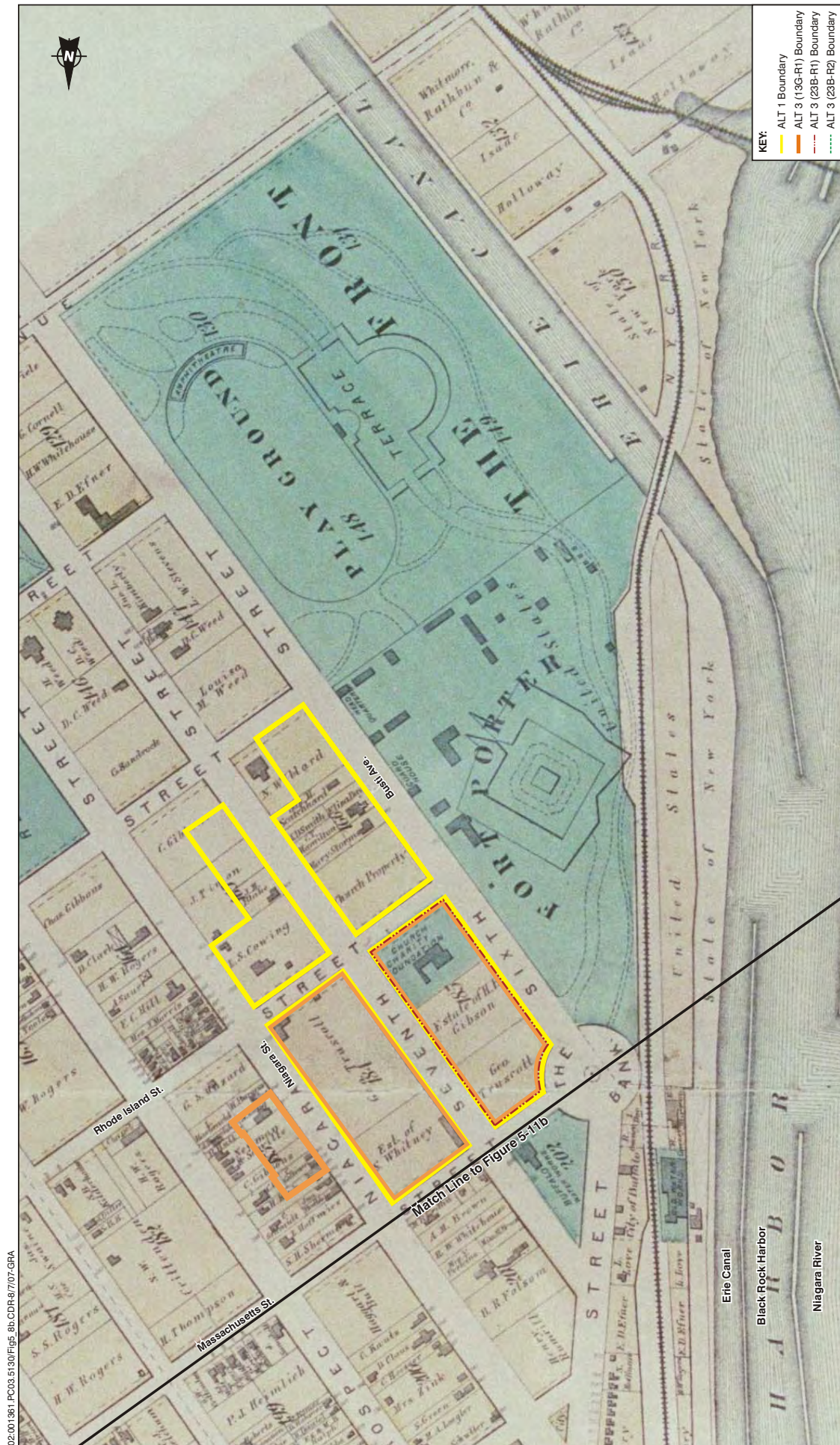
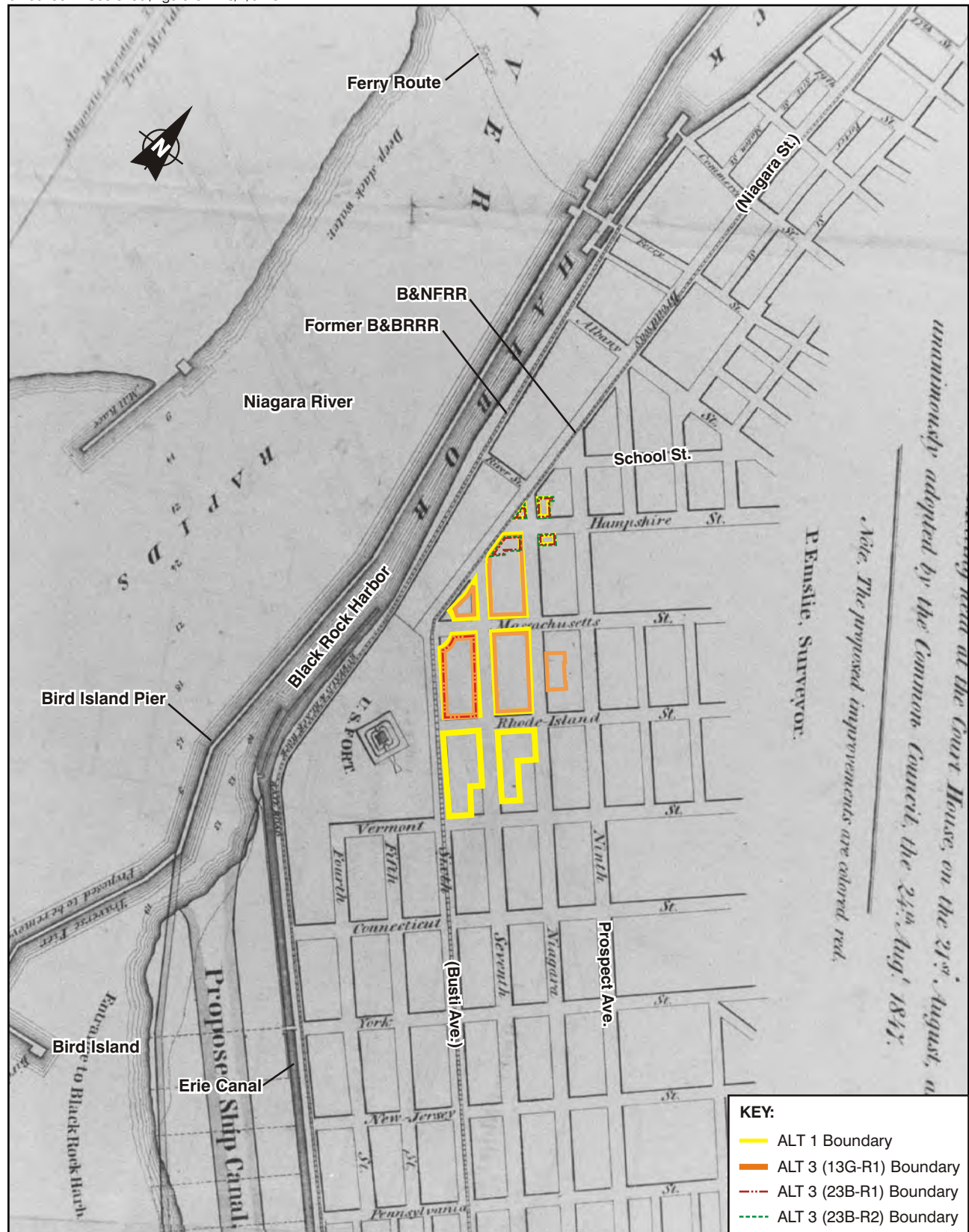


Figure 5-8a The Northern Half of the Project Area in 1874





SOURCE: Emslie 1847. (Courtesy of the Buffalo and Erie County Historical Society)

Figure 5-9 The Project Area in 1847



SOURCE: Emslie 1847. (Courtesy of the Buffalo and Erie County Historical Society)

Figure 5-10 The Project Area in 1848